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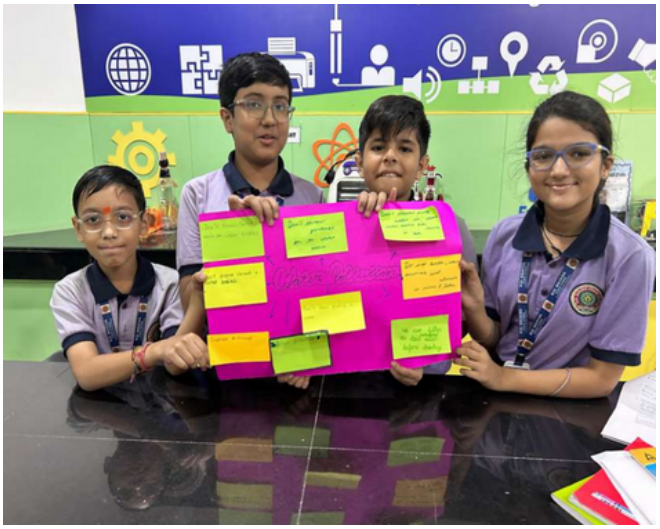
June 2025

Insights from NFTE's World Series of Innovation: Challenge-Based Learning in Action



Top: Students in India collaborate on a World Series of Innovation challenge during an Innovation Day hosted by ENpower and Aramco.

Bottom: Students engage in a WSI Innovation Day with Broward County Public Schools in Florida.

In an age of rapid technological change and global disruption, even our youngest learners are proving capable of bold, entrepreneurial thinking. NFTE's World Series of Innovation (WSI) offers compelling evidence: when children and teens are invited to solve real-world problems through challenge-based learning, they don't just rise to the occasion—they generate insights that challenge assumptions about what young people are capable of. Through WSI, NFTE has uncovered important lessons about the capacity of young learners, particularly those in primary grades, to engage in complex problem-solving, demonstrate empathy, and propose meaningful solutions to global challenges. These insights suggest that entrepreneurship education, when introduced early and grounded in purpose, can unlock creativity, cognitive growth, and a lifelong sense of agency.

WSI is NFTE's global competition, which aligns with the United Nations Sustainable Development Goals (SDGs) and invites young people to tackle real-world problems through creative, challenge-based learning. Since 2009, nearly 50,000 participants ages 13-24 from 88 countries have participated in WSI, with challenges sponsored by leading organizations such as Aramco, Intuit, and the Citi Foundation. Each challenge invites students to reimagine their world by developing bold, entrepreneurial solutions to issues ranging from clean water access to responsible consumer practices.

WSI is intentionally designed for flexible participation, making it easy for participants to engage through schools, nonprofits, or independently with support from family members. In 2024, NFTE expanded WSI's reach by launching the Imagination League, a new track for children ages 5-12, while continuing to grow the Impact League for teens and young adults. Altogether, the competition now reaches approximately 5,000 young innovators annually, including nearly 1,300 primary students in its inaugural year of the Imagination League.

From kindergarteners to young people entering the workforce, this year's WSI participants demonstrated that when young people are given the right tools, time, and encouragement, they can generate fresh ideas, apply an

About NFTE

The Network for Teaching Entrepreneurship (NFTE) is a global education nonprofit that empowers partners to integrate entrepreneurial education across curricula and equips youth in under-resourced communities with the skills, connections, credentials, and real-world experiences needed to lead change and own their futures. Since 1987, NFTE has reached more than a million learners worldwide.

entrepreneurial mindset, and envision bold solutions for global issues. Their ideas were not only creative but rooted in empathy and action – proving that entrepreneurship education, especially when introduced early, can unlock creativity, develop essential career skills, and empower a lifelong capacity for civic and economic contribution.

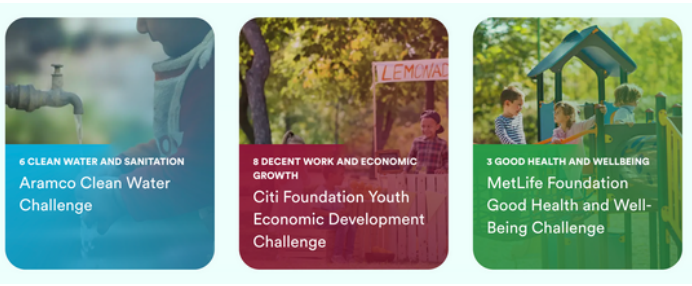
Learning #1: Challenge-Based Learning Builds Career Readiness and Innovation Pathways

When students confront real problems that matter to them, they develop more than just solutions; they gain the skills, mindset, and confidence necessary for lifelong success. At the heart of WSI is Challenge-Based Learning (CBL), a powerful approach that immerses students in experiential, purpose-driven problem-solving. The results are transformative. Design thinking approaches, whether introduced through classroom instruction, hands-on Innovation Days, or independent exploration, play a crucial role in helping students better understand the problems they want to solve and begin generating creative, impactful solutions. Students who engage in these practices are notably more likely to submit well-developed and innovative concepts. Their submissions demonstrate strong communication, systems thinking, collaboration, and creativity, which are essential skills for success in today's and tomorrow's workforce.

CBL is designed to ignite curiosity and promote sustained, meaningful engagement. Research shows that when students are asked to tackle global challenges, they spend more time researching, iterating, and reflecting, while also deepening their academic understanding.[1] Educators consistently report that these experiences build confidence and foster a mindset shift—students begin to take pride in what they create, not just seek a "right" answer.[2]

The World Series of Innovation (WSI) 2024-2025 School Year Challenges

Imagination League (ages 5 to 12)



Impact League (ages 13 to 24)

"Entrepreneurship is a mindset," said Michela Maxera, a high school student at the International School of Panama and finalist in the 2024 World Series of Innovation. "When you see a problem, you don't wait for someone else to fix it. You say, 'Here's a problem, and here's how I'm going to solve it.'"

Michela's project, ConnectED, emerged from service work installing solar panels in rural schools. She noticed that even with electricity, many classrooms remained disconnected from the internet. To address this, she

1 Johnson, Laurence F.; Smith, Rachel S.; Smythe, J. Troy; Varon, Rachel K. (2009). Challenge-Based Learning: An Approach for Our Time. Austin, Texas: The New Media Consortium. Retrieved June 20 2025, from https://www.challengebasedlearning.org/wp-content/uploads/2019/05/CBL_approach_for_our_time.pdf
2 Zapasek, Greg (2022). How Challenge Based Learning Transformed My Classroom and Boosted Students' Confidence. Retrieved June 18, 2025 https://digitalpromise.org/2022/09/28/how-challenge-based-learning-transformed-my-classroom-and-boosted-students-confidence/

While installing solar panels during a school service trip, Michela Maxera was inspired to launch ConnectED, a business aimed at bringing internet access to underserved classrooms.

designed a solar-powered WiFi system, which was successfully prototyped and tested with support from her school. She plans to use her WSI prize money to help build a scalable version. “WSI gave me the push to try something big,” she said. “If I fail, I learn. If I succeed, I grow.”

At Falls Church High School in Virginia, NFTE teacher Fred Coulter integrates WSI into his teaching to build entrepreneurial mindsets. He sees firsthand how CBL transforms student trajectories, especially for those who may not have access to or disinterest in traditional postsecondary pathways like college.

“WSI makes my students think bigger,” Fred said. “They’re not just doing a classroom assignment; they’re solving real problems in their communities.” His students have supported family members in launching small businesses, started their own ventures in cleaning and landscape, and even pitched patented product ideas to global brands. A former student built a six-figure lawn care business before graduation and later launched a successful recycling startup, both inspired by their experience with challenge-based entrepreneurship education.

When young people are supported in solving real-world problems, they discover their capabilities and build skills to shape their futures. WSI demonstrates that when learning is grounded in challenge and purpose, students cultivate the mindset to thrive in any situation.

Learning #2: Youth Entrepreneurship is Deeply Rooted in Social Impact and Community Needs

Rather than focusing solely on profit, many students see entrepreneurship as a vehicle to increase community impact and address the issues that shape their lives. Through WSI, participants address global challenges, often creating solutions shaped by their lived experiences, culture, and values.

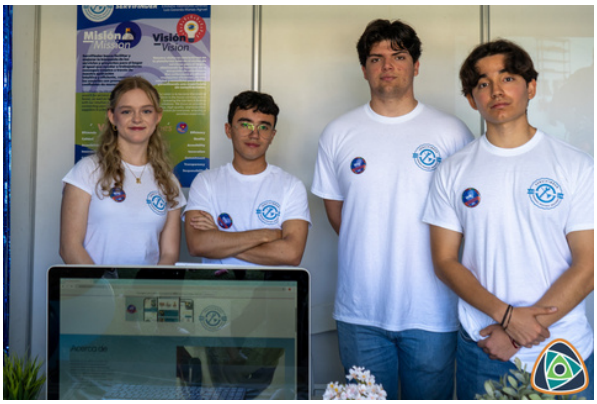
Anirudh Mazumder, a recent graduate of the Texas Academy of Mathematics and Science and a rising freshman at Stanford University, is a powerful example. Anirudh, along with another team member, was a third place winner for WSI in 2023 with OrganTrack, a blockchain-powered system designed to address racial inequities in organ allocation, which is a topic he was personally invested in through his advocacy work with the National Kidney Foundation. This year, Anirudh returned solo with ThermaPane, an innovative window design that regulates indoor temperature, helping public buildings conserve energy and reduce costs. “Entrepreneurship forces you to think beyond yourself,” he said. “You learn to identify global problems and design solutions for them. And you realize that sometimes the best ideas come from people my age, because we haven’t yet accepted the status quo.”

Anirudh Mazumder visits the U.S. Capitol as part of his advocacy work with the National Kidney Foundation, a cause that also inspired his WSI ventures.

Anirudh is now evolving KidneyChain, a startup inspired by his WSI project OrganTrack, which uses artificial intelligence and blockchain technology to improve transparency and efficiency in the organ transplant system. Collaborating with researchers,

nephrologists, and policy advocates, Anirudh aims to address critical flaws in organ matching and allocation. For him, WSI wasn't just a competition; it was a launchpad for real-world change.

Similar stories are emerging from around the world. In Mexico, Samuel Gonzalez, CEO of Fundación E, has seen similar transformations. In partnership with NFTE, Fundación E brings WSI into public technical schools, where students often face limited opportunities. "Many of our students are the first in their families to finish high school," Samuel said. "Through WSI, they start to see entrepreneurship as a path to economic stability—not just for themselves, but for their whole community." One team turned their school's courtyard into a greenhouse garden to provide fresh food for their cafeteria. Another launched a local recycling service to reduce waste and generate income.



Students from CALP International Academy in Mexico present ServiFinder, a platform that connects customers with service providers to support freelancers and small businesses. The team developed their idea through WSI, delivered in partnership with Fundación E.

This pattern holds true in India, where NFTE's partner ENpower brings WSI to rural and urban schools to life through in-person coaching, pitch events, and community outreach. "They aren't just participating for fun—they're deeply invested in their ideas," said Pooja Singhal, ENpower's Relationships Officer. One standout team, concerned about pollution in their hometown, created Tyrone, a sustainable footwear brand that turns scrap tires into affordable shoes. With ENpower's continued support, the team has opened an online store, transforming a pitch into a purpose-driven enterprise.

WSI empowers students to connect their lived experiences to bigger social missions. Whether addressing climate resilience, gender equity, food insecurity, or local economic gaps, students build ventures with heart and purpose – proving that youth entrepreneurship is a force for good.

Learning #3: Early Exposure Sparks Extraordinary Creativity and Cognitive Growth

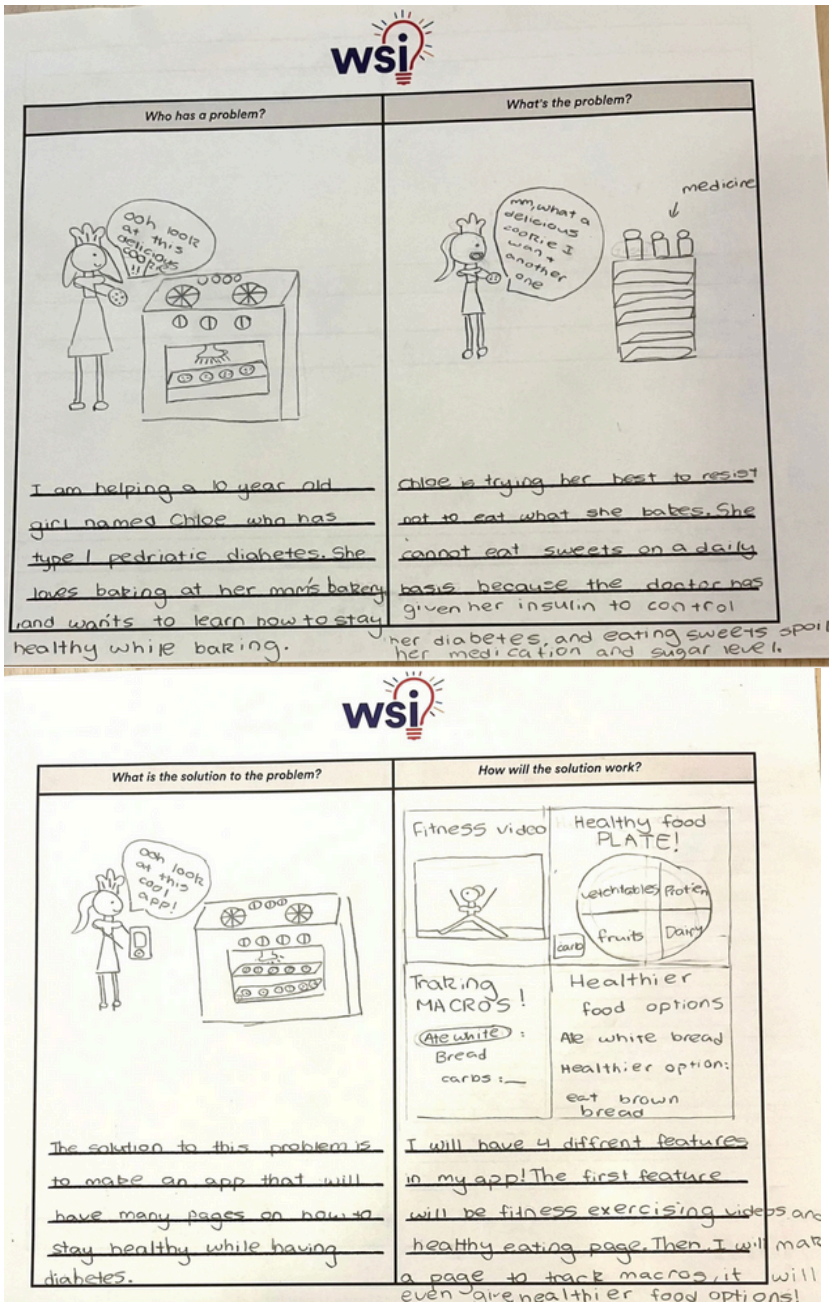
Too often, entrepreneurship education is reserved for older students in high school or beyond. But creativity doesn't wait for adolescence, and neither should opportunity. The launch of the Imagination League track in WSI proves that even the youngest learners, some as young as five years old, can identify local problems and propose meaningful solutions. From smart water systems to school gardens, their ideas were imaginative, empathetic, and action oriented.

This isn't just anecdotal. A growing body of research confirms that early exposure to creative problem-solving can significantly enhance executive function, cognitive flexibility, and original thinking, which are core traits linked to long-term academic and professional success.[3] Studies confirm that engaging children in open-ended, purpose driven projects help develop the brain's prefrontal cortex, the region responsible for planning, decision-making, and self-regulation.[4]

Young students participate in an Innovation Day hosted by Green Lightyear at Suzhou Industrial Park Du Shu Lake Kindergarten in Suzhou, China.

3 Smith, Kimberly, & Young, Vicki M. (2024). How Unlocking the Power of R&D Through Inclusive Innovation Can Transform Education. Digital Promise. Retrieved June 18 2025, from https://digitalpromise.org/wp-content/uploads/2024/01/CII-v2-Whitepaper-A-New-Narrative_FINAL.pdf

4 Wiltshire, Cynthia, & Scott, Molly (2024). B uilding Executive Function Skills Through Games: The Power of Playful Learning. NAEYC. Retrieved June 18 2025, https://www.naeyc.org/resources/pubs/yc/summer2024/executive-function-games



10-year-old Myra Saxena, a student at Herbert Hoover Elementary in California, created a storyboard for her business Healthy Littles. Designed to help children research and learn healthy habits, Myra's submission won first place in the MetLife Foundation Good Health and Well-Being Challenge.

In other words, the skills cultivated through challenge-based entrepreneurship in early childhood aren't just "soft skills," they're brain builders.

WSI challenges are presented as playful, real-world prompts, and students are invited through storytelling, sketches, and prototypes rather than formal business plans. This aligns with research from Digital Promise[5] and Harvard's Center for the Developing Child,[6] which emphasizes the importance of guided exploration and reflection in strengthening executive function and creativity. Educators and partners are seeing this impact firsthand. In Mexico, Fundación E worked with schools in rural and semi-urban areas to pilot the Imagination League in communities where early learning resources are limited. "We weren't sure what to expect from kids so young," said Samuel González, CEO of Fundación E, "but their ideas blew us away."

That connection to community is key. Across the 2024 Imagination League, students tackled real-world problems with insight and imagination, drawing inspiration from their own neighborhoods. In Florida, Harlyn Bowns and Rebecca Dean from Randall Middle School won the Aramco Clean Water Challenge with their idea CWW, a long filtration pipeline that can stretch for miles to remove harmful germs and contaminated water. Their solution was inspired by growing concerns about water safety in flood-prone areas. In California, Myra Saxena, a student at Herbert Hoover Elementary School, created Healthy Littles, a mobile platform that empowers children with diabetes to research healthy habits, find diabetes-friendly recipes, and log their meals. Her idea came from a desire to support friends managing the disease at a young age. WSI's Imagination League reveals that when young learners are given real-world challenges and trusted to lead, they respond not only with creativity, but with empathy, initiative, and deep community awareness.

5 Smith, Kimberly, & Young, Vicki M. (2024). How Unlocking the Power of R&D Through Inclusive Innovation Can Transform Education. Digital Promise. Retrieved June 18 2025, from https://digitalpromise.org/wp-content/uploads/2024/01/CII-v2-Whitepaper-A-New-Narrative_FINAL.pdf
6 Harvard University Center for the Developing Child (2019). https://developingchild.harvard.edu/resources/infographics/what-is-executive-function-and-how-does-it-relate-to-child-development/

Policy Recommendations

Fund and Scale Challenge-Based Learning Models

States can accelerate student engagement and future readiness by expanding Challenge-Based Learning (CBL). Several states are already making strategic investments in experiential learning. Texas offers "Innovative Courses" that allow schools to create electives combining entrepreneurship, STEM, and design thinking.[7] Rhode Island's PrepareRI initiative funds programs that connect students with community projects and local employers.[8] These efforts show how CBL can be embedded into core instruction and aligned with regional workforce priorities.

Students and EY volunteers team up during an EY Innovation Day in Virginia.

Policymakers should build on this momentum by investing in programs that expand CBL opportunities across all grade levels and geographies. This includes dedicated funding for teacher training, innovation course development, and school partnerships with industry and nonprofit partners. These investments are especially impactful in communities historically excluded from enrichment opportunities where CBL can provide students with exposure to real-world contexts they might not otherwise encounter.

Promote Community-Rooted Entrepreneurship as a Workforce Strategy

Students from Horace Mann Middle School in Miami participate in a World Series of Innovation Day

States can strengthen both economic mobility and youth workforce readiness by encouraging entrepreneurship education that focuses on solving local challenges. States like Colorado, through its P-TECH schools,[9] and Tennessee, via its "Ready Graduate" initiative,[10] are already embedding entrepreneurial thinking into career-connected learning with strong ties to local industries.

Policymakers should expand these efforts by funding programs that support student-led ventures addressing community needs and by creating grants that support school partnerships with local entrepreneurs and mentors. These partnerships are especially valuable in rural and disinvested regions, where students often lack opportunities for direct feedback, role models, and real-world insight. When students see entrepreneurship as a tool to uplift their neighborhoods, they gain skills, confidence, and purpose that extend far beyond the classroom.

7 Texas Education Agency. Innovative Courses. Retrieved June 18 2025, from https://tea.texas.gov/academics/learning-support-and-programs/innovative-courses
8 Prepare Rhode Island. Work-Based Learning. Retrieved June 18 2025, from https://www.prepare-ri.org/wbl
9 Colorado Department of Education. Colorado P-TECH: Pathways in Technology Early College High Schools in CO. Retrieved June 18 2025, from https://www.cde.state.co.us/postsecondary/p-tech
10 Tennessee Department of Education. 2023-24 Ready Graduate Appeals. Retrieved June 20, 2025, from https://www.tn.gov/content/dam/tn/education/data/acct/2023-24_Ready_Graduate_Appeals_FAQ.pdf

Integrate Entrepreneurship Education in Curriculum, Starting as Early as Elementary

Young students take part in a Green Lightyear Innovation Day at Du Shu Lake Kindergarten in Suzhou, China.

Entrepreneurship education can start as early as elementary school, a critical stage when curiosity, creativity, and problem-solving skills are either nurtured or stifled by a student's first academic experiences. Introducing entrepreneurial thinking at young age helps students build confidence, collaborate with others, and take ownership of their learning. Across the country, a growing number of states are beginning to recognize this.

Delaware has adopted K-12 financial literacy standards that incorporate aspects of the entrepreneurial mindset and offers state-level support for educators.[11] In August 2023, California Governor Gavin Newsom issued an executive order directing the California Department of Education to expand career education, including entrepreneurship, across K-12.[12]

Policymakers should expand and invest in efforts like these by embedding entrepreneurship into state academic standards and encouraging interdisciplinary, project-based learning in the early grades. To continue growing this movement, states can also invest in research and measurement tools to better understand the long-term impact of early entrepreneurship education on academic success, workforce readiness, and civic engagement. With data and promising practices, more systems can build effective, inclusive, and developmentally appropriate models that prepare students to lead.

Conclusion

The future of education, and our economy, depends on our ability to equip young people with the skills and mindsets needed to navigate uncertainty, drive innovation, and lead change. NFTE's World Series of Innovation (WSI) provides clear evidence that when students are given the opportunity to solve meaningful problems, they rise to the challenge with creativity, purpose, and determination.

NFTE isn't just preparing students; we are partnering with them to shape the future. As states and districts reimagine how to prepare students for the future of work, they must look beyond traditional pathways. Challenge-based learning, community-rooted entrepreneurship, and early exposure to entrepreneurial thinking offer proven models that deepen engagement and expand opportunity.

By investing in programs that center on real-world learning, policymakers can build more equitable and responsive education systems, ones that not only prepare young people for tomorrow's jobs but also empower them to lead the change.

Now is the time to scale what works.

11 Delaware Department of Education. Standards and Assessments. Retrieved June 17, 2025, from https://education.delaware.gov/educators/academic-support/standards-and-assessments/

12 Executive Department, State of California. EXECUTIVE ORDER N-11-23. Retrieved June 17, 2025, from https://www.gov.ca.gov/wp-content/uploads/2023/08/8.31.23-Career-Education-Executive-Order.pdf

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