



A Shared Commitment to Students

EDC partners with Massachusetts formal and informal educators, leaders, and policymakers to give all young people the foundational science, technology, engineering, and mathematics (STEM) knowledge and skills they need to thrive in post-secondary education and careers.

In 1960, with the publication of the first *PSSC Physics* textbook, EDC became a pioneer in STEM education. Today, EDC is an international leader in STEM curriculum development, R&D, policy analysis, out-of-school learning, professional development, career readiness, and youth motivation.

EDC is at the forefront of innovations in STEM learning and pedagogy—inquiry-based instruction, problem-based learning, digital curriculum, and emergent technologies. Our customizable materials and tools form a vast resource for educators supporting the next generation of idea makers and innovators, whether the setting is formal or informal, urban or rural, career or technical education.

Here in our home state, we collaborate with STEM educators and leaders to answer urgent questions facing schools and districts as they build capacity for systemic change.

Our initiatives address the following goals:

- Close opportunity gaps and develop strong STEM knowledge and skills in all students
- Improve formal and informal educators' knowledge and pedagogical skills
- Design and test innovative models for STEM education in and out of school
- Provide engaging STEM experiences using sophisticated technologies
- Lead research, evaluation, and policy studies to help decision-makers make informed choices about STEM education
- Foster systemic change through consultation, capacity-building, and partnerships with business and higher education
- Build national communities of practice focused on STEM, including leading STEM learning resource centers and networks



EDC Contact:

Abigail Jurist Levy
alevy@edc.org
617-618-2437



will provide Massachusetts policymakers with new insights into if and how science fairs enhance students' mastery of science and engineering practices and spark students' interest in STEM education and careers. The study will also provide new findings on the costs and resources required to implement an effective middle school science fair and generate a series of guides and tools for educators.

Selected Initiatives

Massachusetts Computing Attainment Network (MassCAN): EDC leads *MassCAN*, a statewide initiative that engages industry leaders, educators, and policymakers in ensuring all students have a high-quality computer science (CS) education. Through *MassCAN*, EDC has facilitated the development of new state digital literacy/CS standards and provided CS professional development to hundreds of teachers. In 2017, EDC's *MassCAN* team co-authored a groundbreaking report, *State of the States Landscape: State-Level Policies Supporting Equitable K-12 CS Education*, that spotlights progress in Massachusetts, as well as describing the systemic changes needed to provide students nationwide with CS learning that prepares them for their futures.

Science Fairs Under the 'Scope: Science fairs are popular in Massachusetts, but there is little research-based evidence to show what kids learn from them. In the Bay State's middle schools, and in middle schools across the country, EDC is leading the first real study of science fairs in the United States. Our findings

Designing for Equity by Thinking in and about Mathematics (DEbT-M):

EDC's *DEbT-M* systemic change model helps schools and districts close math opportunity gaps for students of color. Currently, we are using the model to engage Massachusetts middle and high school teachers in professional learning that supports them in identifying and addressing obstacles faced by students historically underserved by our system of schooling and math education. The model, which can be tailored to fit district needs and scaled up, includes a two-year sequence of three courses, a process to develop teachers as change agents, and an instrument to diagnose district-level systemic opportunity gaps.

Young Mathematicians: EDC's STEM education R&D in the Bay State is advancing knowledge of how to close opportunity gaps for students from low-income families. For example, our *Young Mathematicians* professional development program is helping Massachusetts Head Start teachers use games to improve children's math learning and ability to persist at challenging tasks and building teachers' capacity to engage families in fostering children's math literacy. We are seeing some promising results from the program (e.g., promoting persistence, building early math skills and knowledge, expanding children's vocabulary, fostering social and emotional skills that are key to school readiness and success).



EDC designs, implements, and evaluates programs to improve education, health, and economic opportunity worldwide. Collaborating with both public and private partners, we strive for a world where all people are empowered to live healthy, productive lives.

