THE SOLUTION FOR

- collaborative teaching
- educational equity
- foundation building
- innovative thinking
- leader development

ASSET STEM EDUCATION 2017-2018 ANNUAL REPORT
Our mission is to advance teaching and learning to engage, inspire and empower all learners.
A Message from the ASSET Executive Director
Dr. Cynthia Pulkowski

Today, educators and learners are preparing for a world that is increasingly dependent on science, technology, engineering and math (STEM). They’re exploring new ideas and tools, preparing for the modern workforce and developing lifelong learners as future community members and leaders.

This year, ASSET STEM Education had the opportunity to partner with school districts and educational organizations to navigate these challenges and empower them to prepare students for a future in STEM. Our programs and courses gathered teachers, administrators and leaders from every level and subject to work together, ask questions, explore new models and understand how to apply these concepts to understand the world in which we live and work.

Since 1994, ASSET has been committed to partnering with educators to lead a systemic education reform initiative, focusing on inquiry-based learning and collaborative teaching across all disciplines. ASSET achieves this by delivering effective professional development on foundational practices and STEM content, and by providing evidence-based instructional materials for students to experience hands-on activities.

With the support of our partners and members this year, we were able to continue our mission to advance teaching and learning and impact more than 2,600 educators and 69,000 learners.

On behalf of the ASSET team, I want to thank you – our participants, members, contributors, volunteers, supporters, staff, and board – for a great year. Your support of ASSET and your commitment to quality STEM education has truly made a difference in our community.

I look forward to collaborating with you in the future.

Cynthia
By partnering with ASSET STEM Education, educators continuously improve their institutional practice through proven professional development, hands-on learning materials, and consulting service. ASSET helps K-16 educators and administrators align their curricula with academic standards and reform STEM teaching and learning in their schools and organizations to prepare learners to succeed in the 21st century workforce. We convene schools, businesses, higher education institutions, community organizations, and other stakeholders to increase collaboration around improving STEM education.

PROFESSIONAL DEVELOPMENT
We offer training on educational leadership, curriculum assignment, pedagogy of how people learn, and STEM content and classroom teaching.

HANDS-ON STEM MATERIALS
We store, ship, and refurbish nationally sourced, hands-on learning materials and lease them to schools and educational organizations.

IN 2017-2018:

2,638 EDUCATORS SERVED
69,156 STUDENTS IMPACTED

8,610 Hours of Professional Development
4,459 Kits of Classroom Learning Materials Shipped
25% of PD Services Provided Pro-Bono
72 Member School Districts
1,636 Volunteer Hours from 30 Organizations
217 Educational Organizations Served
SUCCESS STORY: BUILDING CURIOSITY

Melinda Bahney, a preschool teacher at Penn Hills School District in Pittsburgh, Pennsylvania understands the importance of building. Throughout the year, she works with the kids in her classroom to create structures and understand how they apply to the world in which they live.

She understands that exploring these and other STEM concepts at an early age can help build a strong foundation for students to find success as future employees, community members and leaders.

In 2018, Bahney joined ASSET STEM Education and 12 other preschool teachers for a pilot program, “Inspiring Curiosity in Young Learners.” The program intended to build upon ASSET’s efforts to improve access to high-quality STEM education for young children, as it provided educators in underserved districts with highly-effective professional learning and innovative classroom learning materials.

The program, funded by PNC Foundation, was offered at no-cost to educators working with early learners – ages five and under – from low- to moderate-income households. Preschool teachers received new instructional materials developed by SAE International for the A World in Motion (AWIM) Preschool program. These materials kits, called “We Can Build,” were designed specifically for preschoolers to explore science and engineering topics, through building blocks, drawing activities, and construction areas.

Teachers also attended one day of professional learning with ASSET to explore the AWIM materials and incorporate intentional teaching and inquiry-based learning into their instruction. The course helped to build the educator’s own understanding of science and engineering content knowledge and their abilities to teach the concepts with young learners.

At the end of the program, Bahney’s class hosted an Engineering Open House and welcomed parents and families to the classroom. Families were able to experience the materials and activities with their children and learn how to continue to build the engagement and exploration at home.

The combination classroom lessons, instructional materials, and professional learning had a lasting effect on teachers and students. After the program, participating educators reported that they feel better prepared to facilitate ongoing science and engineering teaching in their classrooms and that their students developed valuable process skills and emotional learning skills.

“I am so pleased with this partnership and way these kids have responded to the lessons and materials,” said Bahney. “It has truly sparked something creative and curious in each of them that they will build on and carry with them throughout their education and life.”
ASSET partners with national foundations and corporations to fund and implement innovative educational programs for educators and students across the U.S. While a majority of educators who participate in ASSET’s programming are funded through their district or employer, ASSET provides pro bono services to hundreds of educators and organizations per year through grant programs and the Access ASSET Scholarship program.

In recent years, grant-funded programming has focused on evidenced-based instructional practices, changes in the educational landscape, or special populations. The majority of grant programs are designed to serve under-resourced educators, while some are designed to serve a mix of educators from low and non-low socioeconomic areas to support enhanced peer-to-peer learning.

Recent programs have included:

- Math Professional Development Institute: supporting teacher leadership
  Grant County, NM

- PreK STEM Up: raising the quality of early childhood centers
  Philadelphia, PA

- Foundations for Inquiry: implementing shifts in instructional practice
  Potter County, PA

Access ASSET ensures that all students benefit from highly-effective educators and high-quality learning tools by providing no-cost training & learning materials.

Too many educators are unable to access the training and instructional materials they need to prepare all students for a future that is increasingly dependent on STEM. This contributes to a STEM achievement gap, with students in under-served communities and students of color falling behind their peers. Access ASSET helps provide every learner with skilled, confident educators and research-based, hands-on materials.
In 2017, ASSET launched the pilot of Project-based Learning Through Teacher Externships program, thanks to generous funding from Arconic Foundation. The innovative program engages educators in professional development to explore project-based learning (PBL) and pairs them with STEM industry professionals for a half-day externship.

During the program, educators uncovered:
- the challenges their students must be equipped to address in future careers
- the knowledge and skills required to tackle these challenges
- opportunities to bridge classroom learning with the real world

Studies confirm various positive results of PBL, including: improved content learning, higher levels of student engagement, a more positive view of learning, heightened interest in content, development of problem-solving strategies and increased ability to transfer skills to new situations (Holm, 2011).

![Educators in Pilot Cohort](image1)

28 Educators in Pilot Cohort

![STEM Industry Mentors](image2)

23 STEM Industry Mentors

![Industry Partners](image3)

10 Industry Partners

Local educators participate in two days of Professional Development on the benefits and design of PBL

Teachers applied PBL with students, including building a bridge using toothpicks and marshmallows

Teachers applied PBL with students, including using Speck particulate monitors to examine air quality

Externship pairs: Shelley Ranii (Alcoa), Tim Kotch (Norwin School District), Candace Robick (Grand Canyon University)
Innovation does not happen in isolation. This is a core belief at ASSET, and we deeply value our partnerships and support systems - including volunteers who sort and clean classroom materials in our warehouse, foundations and corporations that provide generous funds to implement programs, donors who allow us to offer free training and materials to teachers in need, and our members who trust us to collaborate with them.

**2017-2018 FINANCIALS**

This financial report covers expenses and revenue for July 1, 2017 - June 30, 2018, based on an independent audit conducted by Maher Duessel.

**REVENUE**

$2,198,977

- **Customers** $1,634,428
- **Foundations** $426,740
- **Corporations** $92,111
- **Individual Donors/Other** $45,698

**EXPENSES**

$2,596,178

- **Materials Distribution Center** $1,160,518
- **Administration** $751,694
- **Professional Development** $584,547
- **Fundraising** $99,419

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**VOLUNTEERS**

- Arconic
- Individual Volunteers
- HM Insurance Group
- Baldwin-Whitehall
- PNC Helping Hands
BOARD OF DIRECTORS

as of July 2018

Tim Goetz
Grant Street Associates
President

Dr. Ted Frick
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Thomas Faber
Bombardier Transportation

Tim Kotch
Norwin Area School District

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DONORS & PARTNERS

$100,000+
Bayer USA Foundation
Freeport-McMoRan Foundation

$50,000 - $99,999
The Pew Charitable Trusts

$20,000 - $49,000
Arconic Foundation
BNY Mellon Foundation of Southwestern Pennsylvania
Dollar Bank
Duquesne Light Company
PPG Industries Foundation
Shell Oil Company

$5,000 - $19,000
Covestro LLC
Human Services Administration Organization, Inc.
NexTier Bank
PNC Foundation
The Buhl Foundation

$100 - $4,999
Alcoa Inc.
Citizens Charitable Foundation
Clark Hunter Foundation
Donnelly-Boland and Associates
Exponent
Individual Donors
Maher Duessel, Certified Public Accountants
UPMC Health Plan
“Many of my students started without having much of any literacy in their home environment, but now they’ve surpassed expectations of their reading level. And I think it has a lot to do with problem solving and inquiry—not just in science, but in language arts and math as well.”

Cheryl Burt
ASSET Teacher