CONTEXT :: CHALLENGE :: STRATEGY :: EXAMPLE PROJECT

CONTEXT
Learning is happening anywhere, anytime
Research is confirming what many educators and parents have long known—children are surrounded by learning opportunities throughout their daily lives, not just while they are in school.

CHALLENGE
A shift is necessary to move away from a model in which a single institution, the school, is responsible for providing knowledge didactically to students.

STRATEGY
Informal learning institutions combine research, knowledge, and insights to improve the learning process in both formal classroom settings and informal community learning environments.

EXAMPLE PROJECT
The Carnegie Museum of Natural History partnered with the **Pittsburgh Parks Conservancy** and the **CREATE Lab at Carnegie Mellon** to extend the museum learning experience through the **Digital Discovery Room**, a traveling program and web learning portal that puts digital tools in the hands of children—and budding scientists!

CONTEXT
Creativity is a critical 21st-century skill
Early childhood education experts, researchers, and business leaders are stressing the importance of creativity in preparing children and youth for the future.

CHALLENGE
We can no longer justify the arbitrary segregation of the sciences and the arts when today's children are the authors, producers, and makers, not just consumers, of media.

STRATEGY
Educators in Pittsburgh have adopted a blended approach to learning that recognizes the innate qualities and curiosities of children.

EXAMPLE PROJECT
The Children's Museum of Pittsburgh, in partnership with **Carnegie Mellon University's ETC** and **UPCLOSE**, is home to **MakeShop**—a space within the museum dedicated to supporting creative learning opportunities at the intersection of digital and maker learning.

CONTEXT
New tools have enabled ever greater connectivity and engagement
Recent advances in technology and media have made communication, collaboration, and participation more dynamic than ever before, transforming how children and youth grow, learn, share, and participate in society.

CHALLENGE
It is imperative to ensure that these new and powerful resources and tools are used effectively and appropriately to positively impact the lives of youth and expand the limits of learning and creativity.

STRATEGY
Practitioners in Pittsburgh make use of technology, media, and arts to engage youth in learning, inspire their creative play, and provoke their innate curiosity about the world around them.

EXAMPLE PROJECT
The Carnegie Science Center, through the **Girls, Math, and Science Partnership**, developed **Click! Spy School**, an online and mobile learning quest providing a one-of-a-kind urban science adventure program designed especially for teen girls.

This document was prepared for Spark, a program of The Sprout Fund. Learn more at sparkpgh.org, contact us via connect@sproutfund.org, or call 412-325-0646.

COLLABORATIVE, CREATIVE, AND CONNECTED
PITTSBURGH: FORGING A 21st-CENTURY LEARNING COMMUNITY

Building on the Momentum of the Kids+Creativity Movement
Working at the intersection of many disciplines, Pittsburgh's academic, commercial, and civic leaders have formed a deeply connected ecosystem of innovation and impact.

Committed to making the Pittsburgh region into one of the best places on Earth to be a kid, this network is leveraging Pittsburgh's history of originality and ingenuity to astonish, delight, enrich, and inspire children to play, learn, and grow in the digital age.

Once home to Fred Rogers, Pittsburgh is now home to an eclectic and talented group of creative innovators using new ideas and technologies to improve the lives of children and youth in the region. Working together across sectors, this network is transforming Pittsburgh into a living learning community—alive with creativity and opportunity!

The Greater Pittsburgh Region is a 21st-century model for a creative, collaborative, and connected learning community that uses digital media tools and innovative approaches to enhance achievement in science, technology, and the arts.

Working together since 2007, network members include researchers, educators, innovators, and civic leaders representing university labs and research centers, regional cultural institutions and child-serving agencies, educators and administrators of public, private, charter, and virtual school systems, and the burgeoning entrepreneurial private sector focused on technology and media.

The projects, programs, and initiatives of the network are creating greater awareness of and access to remarkable learning experiences for children, youth, and families—both in and out of schools.

The Pittsburgh Region is developing a model for learning that empowers children of all ages to discover their passions and invent their brightest future.

With millions of dollars invested, thousands of children engaged, and hundreds of practitioners leading dozens of projects, the network is yielding tangible results in communities throughout the region.

Over time, the Pittsburgh region will provide all children and youth with the best available opportunities to learn and to be creative.

"Today, new pioneers—gamers, roboticists, technologists, and designers—are working alongside educators in and out of schools to inspire and provoke creativity and curiosity among children and youth in the Pittsburgh region."
Gregg Behr
Executive Director
The Grable Foundation

THE LEARNING ECOSYSTEM IN THE DIGITAL AGE

Effective learning networks include five key elements:
[1] Connections to Formal and Informal Learning Environments;
[2] Innovation Research and Development; [3] Learning Research
and Scholarship; [4] Commercial and Entrepreneurial Support;
and [5] Strategic Stewardship.
**Innovation is SPARKED at the edge—where the network
elements intersect.**

CONNECTIONS TO FORMAL AND INFORMAL LEARNING ENVIRONMENTS

In the Pittsburgh region, schools are open and receptive to new ideas and teachers are
eager to apply new learning strategies in their classrooms. Outside of schools, regional
institutions actively seek out and implement innovative programming to enhance and
extend opportunities for life-long learning.

Center for Creativity: Allegheny Intermediate Unit (PA Department of Education) supports educators in 67 school districts across four counties through STEAM grants for innovation in the classroom and through TransformED, a digital playground for teachers' professional development.

Engaged Educators and Aligned Administrators: Teachers, principals, superintendents, students, and parents are embracing innovation in the classroom from Pittsburgh Public Schools to surrounding districts, from university lab schools to enterprising charter systems.

Regional Cultural Institutions: From the Children's Museum of Pittsburgh and the Carnegie Libraries, to Pittsburgh Zoo and the Carnegie Museums, regional institutions are committed to energizing their approach to out-of-school learning opportunities.

INNOVATION RESEARCH AND DEVELOPMENT

Pittsburgh is home to a remarkable cadre of scientists, inventors, and educators
working at the leading edge of innovation. In particular, Carnegie Mellon University
is a nexus for research and innovation across a variety of applicable fields.

Entertainment Technology Center: Globally recognized leader combining technology and fine arts to create new processes, tools, and visions for storytelling, entertainment, and learning experiences. Notable projects include principal design for YouMedia space at Chicago Public Library.

Robotics Institute: Lessons learned through advanced research makes its way to the community through Robotics Academy and CREATE Lab in virtual and hands-on programs that engage kids in learning math, science, and arts.

Human Computer Interaction Institute: Research that harmonizes and improves human capabilities, goals, and social environments through interdisciplinary research and education in design, computer science, and behavioral and social sciences.

LEARNING RESEARCH AND SCHOLARSHIP

Research centers are actively evaluating the outcomes of new approaches to
learning being deployed in local schools and educational environments.

Fred Rogers Center: FRC's Technology and Interactive Media Position Statement, issued jointly with the National Association for the Education of Young Children, defines clear guidelines for evaluating quality of new tools in early childhood education.

University of Pittsburgh Learning Research and Development Center: Conceptualizing, supporting, and assessing education innovation through initiatives like the Activation Lab, which measures how informal and formal learning can activate children's passion for science, technology, and the arts.

Pittsburgh Science of Learning Center: Joint Carnegie Mellon and University of Pittsburgh NSF Center studying robust learning—learning that is retained and transfers to new situations—in the areas of science, mathematics, and language learning.

COMMERCIAL AND ENTREPRENEURIAL SUPPORT

Pittsburgh's entrepreneurial community is largely an out-growth of innovations first
launched in the region's universities and research centers. High tech startups and spinouts
find a supportive network in the region.

Creative Technology Network: The Pittsburgh Technology Council supports a network of companies in the Pittsburgh region that span the creative tech gamut including design, gaming, film and television, robotics, mobile applications, edutainment, animation, social networks, digital media, and more.

Incubators and accelerators fuel ideas in transition: Entrepreneurs find a supportive community at university-based incubators such as the Center for Technology Transfer and Enterprise Creation and Project Olympus, as well as start-up accelerators like Idea Foundry and Alpha Lab.

Technology Commercialization Initiative: Projects that address key engineering design challenges, show a high degree of innovation, and identify a clear path to commercialization for digital and/or robotics-related companies in Pennsylvania find support through Innovation Works.

STRATEGIC STEWARDSHIP

What began as an informal and organic movement has rapidly developed to reflect a
shared vision among the region's leading civic, commercial, cultural, and academic
stakeholders.

Spark, a program of The Sprout Fund: Serves as a leader and connector of the many spokes of the network. Spark provides catalytic funding support for new ideas and initiatives; enhances knowledge sharing through network services; and amplifies the voice of the network through storytelling and promotion.

Shared goals and outcomes: In 2011, network members established shared objectives for their work and mission, vision, and values statements to guide the more than 60 prominent organizations and regional institutions in the network.

Pittsburgh's tightly knit philanthropic community is aligned: The Grable Foundation, the Claude Worthington Benedum Foundation, The Buhl Foundation, McCune Foundation, and The Pittsburgh Foundation have aligned behind efforts to advance the region as a model for 21st-century learning.