



rec² tech pittsburgh

2016
Demonstration
Week Report

rec2techpgh.org

#rec2tech



introduction

national challenge

In 2014, President Obama issued a call to action that "every company, every college, every community, every citizen joins us as we lift up makers and builders and doers across the country."

In response to the President's call, communities across the United States are repurposing and enhancing underutilized municipal assets to transform recreation centers and other public spaces into youth-centered, technology-enabled, maker learning spaces where young people can engage with science, technology, engineering, arts, and math (STEAM).

For those people who lack reliable internet service and access to technology, these "Rec2Tech" transformations can increase digital literacy and cultivate skills connected to future employment.

In May 2016, the White House Office of Science & Technology Policy convened more than a dozen cities to take the first steps toward building a nationwide movement to expand access to new and innovative learning opportunities for students living in under-resourced and disadvantaged communities through local Rec2Tech initiatives.

local response

In September 2016, Pittsburgh Mayor William Peduto, together with the Department of Innovation & Performance and the Department of Parks & Recreation (Citiparks), partnered with The Sprout Fund, educators from the Remake Learning Network, and lead sponsor Comcast NBCUniversal to launch **Rec2Tech Pittsburgh** to demonstrate how municipal assets can be leveraged to address the digital divide.

During a one-week demonstration, Rec2Tech Pittsburgh transformed five city-owned recreation centers into technology-enhanced STEAM learning centers where youth learned to use technology to express their creativity, solve real-world problems, and build job-ready skills.

In this report to the community, we share initial outcomes and lessons learned during the Rec2Tech Pittsburgh demonstration along with recommendations and resources for building on this effort in Pittsburgh and in other communities across the country.





the context

increasing access and opportunity

The Job Skills of Tomorrow

The U.S. Department of Commerce has reported that 62% of Americans use the internet as an integral part of their job. That percentage is likely to grow as demand increases for highly skilled workers fluent in the use of technology. Here in Pittsburgh, Code.org estimates that Pennsylvania alone has more than 17,220 open computing jobs.

The Digital Divide

Affordable access to the Internet has become as essential as other public utilities, but according to the Pittsburgh Roadmap for Inclusive Innovation published by the Department of Innovation & Performance, more than 23% of households in Pittsburgh lack access to the internet or a computer. The disparity is starker in low-income and minority communities.

The Enrichment Gap

Families with higher incomes spend about \$7,500 more per year on enrichment programs than lower-income families. This stark difference in educational investment suggests students from wealthier backgrounds will only pull further and further away from their less-advantaged peers.

meeting kids where they are

Recreation centers, like libraries, community centers, and other public gathering spaces, are often at the center of neighborhood life. There, residents access services, meet with local leaders, and connect with one another.

For kids, rec centers are places of fun and enrichment beyond the school day. According to the *America After 3pm* study conducted in 2015, young people spend an average of 7 hours a week in out-of-school programs at places like community rec centers.

Fortunately, youth today are living in an era of abundant learning resources, many available at their fingertips on the web and via mobile devices. And local out-of-school educators offer community-based Connected Learning programs that link their personal interests with supportive peers and mentors and relevant opportunities for recognition and advancement.



a week of programming

Making the most of after school time

Rec2Tech Pittsburgh demonstrated how partners from the public, private, and nonprofit sectors can work together to enhance municipal assets with free and accessible **Connected Learning experiences** that prepare youth with the **job skills of tomorrow** and start to **address the digital divide**.

Each afternoon during the demonstration week, educators from local nonprofit program providers hosted hands-on STEAM learning activities for youth ages 7 to 12.

Sessions challenged youth to apply lessons learned in science, technology, engineering, arts, and math to complete a project that helped solve a community challenge.

And rec center staff made sure each session included a snack, physical activity, and dinner so that youth had all the basic resources they needed to stay healthy and engaged.

Over the course of the week, 105 youth participated in Rec2Tech programming.

the demonstration

Making & Breaking the Web: Youth captured 360° images of their neighborhood to build a virtual reality experience

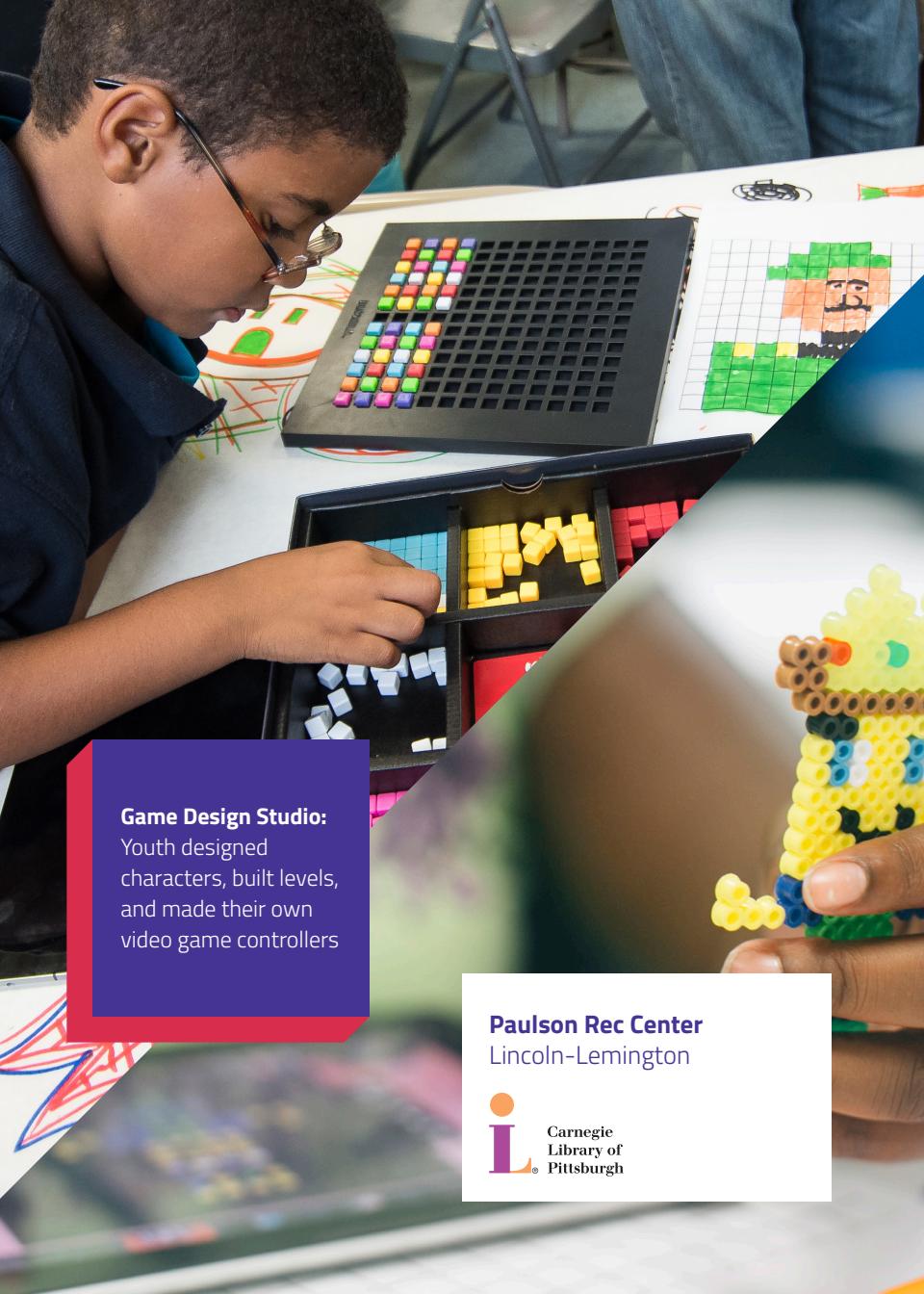
Warrington Rec Center
Beltzhoover

Digital Corps





High-Tech Health:
Youth explored biology and medical science, from anatomy to nutrition



Game Design Studio:
Youth designed characters, built levels, and made their own video game controllers

a celebration

Showcasing student work and community resources

To wrap up the demonstration week, Citiparks hosted a large-scale celebration event at a centrally located public park facility to showcase projects created by participating youth.

- More than 500 attendees
- Hands-on activities from more than 30 local providers
- Free food & music
- Goodie bags for the first 300 kids



an evaluation

Asking questions and seeking feedback

What did kids say?

In order to evaluate how participation in the Rec2Tech demonstration week affected youth interest in and understanding of science, technology, engineering, arts, and math (STEAM), youth at each participating rec center were asked to complete a three-question survey.

Here's what we learned:

- On Monday, students were **confident in their ability** to complete STEAM projects.
- In general, students could accurately **identify the disciplines** involved in each day's activities.
- On Friday, some students were confident that they had **learned enough to teach a friend**; others thought they had a lot more to learn.
- More than half of all youth participating in the demo week and demo party articulated a **high level of interest** in STEAM learning.

What did adults say?

Immediately following the completion of the demonstration week, key adult contributors in the program participated in structured interviews about their role in Rec2Tech, successes and challenges in program delivery, perceived youth satisfaction, feedback on program models, and ideas for the future of Rec2Tech in Pittsburgh.

Here's what we learned:

- Collaboration between partners was **overall very positive** and will lead to future opportunities.
- Rec centers lacked some resources, but were **important for recruitment and engagement**.
- Strong **relationships between rec center staff and youth** were critical to quality youth experience.
- More **professional development** is necessary to support ongoing program quality.

Complete analysis of youth surveys and adult interviews is available at rec2techpgh.org/evaluation



the framework

What we considered as we did this work

The Rec2Tech Pittsburgh demonstration effort tested the potential of leveraging existing municipal assets to expand access to innovative learning opportunities for youth in our community.

We've learned a lot from the experience that will inform our next steps as we consider the best path toward a city-wide implementation.

In an effort to share what we've learned with other communities planning similar initiatives, we have organized our key lessons learned into a framework:

People who must be mobilized and youth who must be served

Places where young people gather to learn in their community

Programming that engages youth in relevant learning

Production management necessary to deliver high-quality experiences

people

✓ **Anchor organization**

It's key to have a lead organization coordinate big tasks and mind the tiniest details. In Pittsburgh, that was The Sprout Fund, a nonprofit experienced both in supporting educators and managing community-based programs.

✓ **Local government**

Supportive city government is a prerequisite to transforming municipal spaces. The Pittsburgh Mayor's Office, Citiparks, and the Department of Innovation & Performance were central to the conversation from the beginning.

✓ **Funders**

Space transformations and new programming require new funding sources. Two funders made Rec2Tech happen in Pittsburgh: Comcast NBCUniversal, which is committed to bridging the digital divide, and the John D. and Catherine T. MacArthur Foundation, a leading funder of Connected Learning.

✓ **Program providers**

Quality programming requires dedicated, experienced educators. In Pittsburgh, those educators are part of the Remake Learning Network, a network of more than 250 organizations working together to shape the future of teaching and learning in the greater Pittsburgh region.

✓ **Youth**

Our programming needed to meet students where they were. Citiparks identified rec centers that students already relied on for programming and recreation. Program providers developed activities that matched student interests.



places

✓ Facilities

The Rec2Tech Pittsburgh approach took advantage of existing city infrastructure. In Pittsburgh, Citiparks maintains 10 community rec centers to support healthy living and community enrichment.

✓ Neighborhoods

We focused on five rec centers located in neighborhoods that represented a diverse cross-section of our city.

✓ Space transformations

Each rec center had different needs: Paulson needed tables while Ormsby needed a cool, welcoming place for kids to hang out. As a result, each space transformation had a different flavor.

programming

✓ Youth engagement

The youth programming engaged kids in hands-on activities that were relevant to their interests and clearly connected to real world opportunities. Each rec center featured activities where kids learned new tech skills and used them to solve a community challenge.

✓ Quality learning experiences

To ensure that these learning experiences were high quality, we relied on trusted, experienced individuals and organizations from the Remake Learning Network who know what it takes to deliver high quality out-of-school-time (OST) programming.

✓ Funding model

As an experienced community grantmaker, The Sprout Fund applied its catalytic funding model to select and support program providers that offer programming that could be inserted into a rec center setting.

✓ Public celebration & showcase

To cap off the week's programming, we hosted a public party in a central location that made neighborhood programming accessible to everyone in the city. This showcase lifted up the youth participants' work and raised public awareness of the program.

production

✓ Logistics

The high level partnerships that made Rec2Tech Pittsburgh happen require careful coordination. We used weekly calls, shared Google Docs, and contractors to work out logistics and address challenges.

✓ Communications

To get the word out and tell the story, we built a strong visual identity and created a dynamic, mobile-friendly website. Then we did press outreach and launched a marketing campaign that included extensive use of social media and public service announcements.

✓ Evaluation

We used short tablet-based surveys at each rec center and at the demo party to capture kids' reactions and impressions about what they learned. After the fact, we interviewed adults about their experiences, and we engaged university researchers to help us evaluate stakeholders' feedback and make recommendations for future programming.

resources

Check out the resources below to learn more about successful models for expanding access to digital learning opportunities

APOST Provider PD

Youth engagement support for OST educators and mentors
afterschoolpgh.org/program-providers/pd

Digital Corps Teaching Kits

Guides to providing digital literacy instruction in OST programs
thedigitalcorps.org/teaching-kits

Digital Harbor Foundation Blueprint

Guide to converting underutilized spaces for tech learning
blueprint.digitalharbor.org

Digital Youth Network

Applied research hub focused on digital learning in and out of school
digitalyouthnetwork.org

Hive Chicago Field Research Report 2015

Report on approaches to digital learning and web literacy programs
mzl.la/chicago

ISTE Digital Literacy Standards

Ed tech standards for students, teachers, and administrators
iste.org/standards/standards

Mozilla Web Literacy Map

Framework of skills necessary for full participation on the web
learning.mozilla.org/en-US/web-literacy

My Brother's Keeper Playbook

Local approach to closing opportunity gap for minority youth
pittsburghpa.gov/mayor/mbk/playbook.html

Nation of Makers

Initiative borne out of the Obama White House to support maker learning
nationofmakers.org

Pittsburgh Roadmap for Inclusive Innovation

Municipal effort to address the digital divide and enhance engagement
pittsburghpa.gov/innovation-performance/innovationroadmap/index.html

P21 Framework

Framework of 21st century skills valued in workforce and society
p21.org/our-work/p21-framework

Remake Learning Playbook

Field guide to building collaborative innovation networks for learning
playbook.remakelearning.org

Summer Dreamers Academy

Model for school-based summer academic enrichment programming
summerdreamers.org

Comcast Internet Essentials

The nation's most comprehensive broadband adoption program, offering low-cost internet service, discounted computer equipment, and free digital literacy training for qualifying families.
internetessentials.com



Visit rec2techpgh.org to find complete details about Rec2Tech Pittsburgh.



the path forward

Exploring options for the future

Quick Wins

Based on the Rec2Tech demonstration week experience in Pittsburgh, we have identified several “quick wins” that build on current practices to enhance the potential of rec centers to continue to deliver relevant and engaging technology learning opportunities for youth.

- Adapt existing rec center procedures for hiring temporary “teaching artists” to **employ visiting “teaching technologists.”**
- Enhance existing **professional development for rec center staff** to include digital literacy and technology skills.
- Incorporate **technology learning opportunities during summer recreation programs** as “rainy day” activities.
- Extend **wireless connectivity** at rec centers to cover all rooms, including gyms, classrooms, and other youth areas.
- Allocate existing budget resources to **acquire and maintain computers** and related technology.

Vision of the Future

Sustaining Rec2Tech programming in Pittsburgh over the long term will require a concerted and inclusive effort that considers the needs of communities where rec centers are located. Rec2Tech must balance facility enhancements necessary to support technology learning opportunities with the need to maintain ongoing recreation programming that communities value highly.

One potential approach is to establish a bid system for seeking providers who can deliver custom technology programming at rec centers in the form of multi-month “STEAM Residencies.”

Selected providers would deliver relevant and engaging technology learning experiences for youth, and they would also support the professional development of rec center staff so that they could gain the knowledge, skills, and confidence to offer similar activities after the residency ends.

With greater familiarity and expertise in providing technology learning programs, rec center staff could make informed decisions when considering investments in space transformations and equipment procurement necessary to make Rec2Tech a permanent fixture in Pittsburgh’s recreation centers.

acknowledgements

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Program Providers

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Program Providers



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Rec2Tech demonstrated how we can use existing city resources to increase access to technology for and provide young people with the 21st century learning opportunities they will need to succeed in the innovation economy.

– Pittsburgh Mayor William Peduto