A TASC WHITE PAPER

Where the Kids Are:

Digital Learning In Class and Beyond

TASC
THE AFTER-SCHOOL CORPORATION

Technology is dramatically changing the way young people learn, especially when they're learning on their own. Kids with means and access employ web-based learning every day, at home and at school. They design video games to teach other kids math and science. They collaborate on writing projects with students on the other side of the world. They take free, online courses taught by top college instructors. They live the hopeful motto that PBSKids Lab stamps on its website: *"Every new technology is an opportunity for learning."*

In the rapidly evolving world of digital learning, we can use that passion to help kids master the skills and content they need to know, and to connect them to a world of other students and adults who encourage them to aim higher and go farther. We also have a chance to ensure that the least advantaged kids are not left behind once again.

TASC's mission is to give all kids expanded learning opportunities that educate, support and inspire them. We believe the smart use of technology can help schools and their community partners overcome learning and opportunity gaps among students, in part by embracing the passion they bring to exploring and creating through digital media. With the benefit of technology, community organizations have the potential to help schools transform the educational landscape by connecting schools, families, youth-serving organizations, museums and libraries in ways that transcend physical boundaries.

Expanded learning time schools, after-school and summer programs offer the ideal time, places and conditions to equalize and advance technology-enabled learning. Community organizations such as Y's and Boys and Girls Clubs typically operate these programs or partner with these schools, which overwhelmingly serve students with great academic and economic needs.

The United States has invested in building a national infrastructure of these organizations in the past two decades, as evidenced by 40 statewide after-school networks, citywide networks all across the country and a workforce of about 1 million after-school educators. It's time to ensure that as schools find ways to use technology effectively to advance learning, so do youth-serving organizations that provide informal learning opportunities to millions of kids beyond traditional school hours. In New York, some of the most groundbreaking work in digital learning is being led by such organizations, many of them members of the HIVE Learning Network NYC. But many traditional youth-serving organizations are on the sidelines, interested but lacking infrastructure, tools or staff training.

What is technology-enabled learning?

Technology transforms the way students learn and communicate with the world. Kids "plug in" to mobile phones, tablets, laptops, portable music players and computers and use the internet as their virtual platform to socialize and explore. A sub-set of students use emerging technologies to expand their learning experiences well beyond the classroom and increase their productivity in school and out.[1]

Smartly applied, technology enables students to participate, produce and co-create knowledge through the use of digital media[2]. They can develop skills to innovate and succeed in the global workplace: communication, collaboration and problem-solving. Learning strategies that combine in-person with virtual learning experiences can allow for continuous educational interaction among adults and young people. Students can drive their own learning experiences at their own pace and explore complex concepts, content and opportunities.

Advantages and Challenges

Expanded learning time schools and out-of-school-time programs have the advantage of being able to develop and test models of technology-enabled learning in a lower-stakes atmosphere than traditional classrooms. Many are heavily staffed by young people, digital natives who don't fear technology. They're logical testing grounds for alternative student assessments and credentialing systems which help kids document their achievements and competencies in online portfolios.

Community organizations are natural connectors to families. And because they excel at building on kids' passions to seed lifelong learning, technology is in their sweet spot.

These organizations also face challenges:

- The out-of-school time field is decentralized and hard for technology developers to reach.
- Informal educators are overwhelmed by digital learning choices, without clear ways to identify quality tools and materials.
- They face the same barriers as many schools, including outdated equipment, firewalls and concerns about student safety and privacy.
- Expanded learning and after-school initiatives are regularly at risk of losing crucial public funding.

Meeting the Challenge

In the summer of 2011, TASC brought together education technology innovators, policymakers, teachers, community organizations, philanthropists and technology learning leaders at a public event to explore partnerships that leverage technology to give all kids access to learning anywhere at any time. This paper builds on that event's discussions and demonstrations, continued through a working group convened by TASC and U.S. Department of Education (USED). We highlight promising practices and offer practice and policy recommendations.

Karen Cator, Director of the USED Office of Educational Technology, challenged school and community partners to employ technology to "have way more kids come back to class after lunch engaged and interested." Tom Vander Ark, CEO of OpenED Solutions, suggested, "We want to engage each and every student who shows up at school every day to be doing exactly what they should be doing and to move them along the trajectory of learning, not just to prep for the next thing, but so they can enjoy the learning day."

We know that what happens beyond the traditional school day matters enormously for how students do in school and life. Kids who regularly participate in these high-quality learning opportunities are more engaged and successful learners[3]. It's time for public and private partners to build productive pathways between the most promising digital learning pioneers, schools and the universe of expanded learning and out-of-school time organizations.

Proposed Digital Learning Principles

- Learning can happen anytime, anywhere and should be personalized, engaging, inter-active and student-centered.
- Technology enhances but can't replace supportive adult educators. Teachers, mentors and adult co-producers are critical to helping students optimize the benefits and avoid the pitfalls of new media.
- School and community educators need high quality professional development to effectively use digital tools.
- Because they are uniquely positioned to develop public-private partnerships, expanded learning intermediary organizations should help school and community partners develop expertise and vet tools and content to equalize access to digital learning.

Kids Become the Experts

MOUSE, a national nonprofit youth development organization, trains students from underserved communities to provide technology support to kids and adults in their schools. Through MOUSE Squad, students learn digital and computational literacies, and practice soft skills as they develop expertise through a combination of hands-on experience and completion of a series of online activity modules on MOUSE's member website.

Adults track student progress in the training modules and develop discussion topics for after-school technical workshops. Students track their progress by earning online badges for demonstrating mastery and making positive contributions to their peer network. Students feel empowered as they exercise leadership in their schools. Students become the educators when other students, teachers and school administrators turn to them for their technical expertise.

Breakthrough Moment:

At IS 528 Bea Fuller Rodgers School, MOUSE Squad students earn respect not just for their technical skills, but also for dependability and professionalism. Teachers and MOUSE Squad facilitators say students feel confident about building skills that can lead to careers. Ismelda Monegro, a MOUSE Squad member, found she could put her expertise to work not only in school but in life. After fixing a printer at a friend's house, she said, "I felt so proud of myself."

Lessons Learned:

- Educators must be convinced that technology is everywhere, and maximizing its use is in the best interest of students.
- Lack of equipment and infra-structure is not insurmountable; MOUSE teaches skills and networking concepts using common materials such as paper clips and string.
- It's important to build students' understanding of how things work so they can become innovators, not just consumers, of digital media and technology.
- Schools and after-school programs should re-envision the learning day together, putting student needs first and designing experiences that motivate kids to see learning as an opportunity that's all around them at all times.

Video Games to Interpret the World[4]

GLOBAL KIDS, which operates in New York City and Washington, DC, is a nonprofit youth development organization that explores the use of digital technologies and social media with a focus on global learning. It stays student-centered by bringing learning to platforms that kids already use, such as social media and mobile technology.

Global Kids' digital media programs for middle and high school students use game design and virtual worlds. Through Playing for Keeps (P4K), high school students design social justice games. Participants use Gamestar Mechanic, a game creation website, to create and critique games about global issues. Students are encouraged to think critically, collaborate with peers and create a user experience that is fun, but that also raises the player's social awareness. They draw on their knowledge of history and current events to develop games. For example, students recently created games that focus on poverty in Haiti and its effect on health care and education. Middle school students have developed games that teach players about local Bronx communities.

Breakthrough Moment:

The appeal of learning through technology is powerful, even for students who struggle in school. Barry Joseph, Global Kids Online Leadership Program Director, describes a science teacher who wanted to enrich her classroom with technology. Global Kids helped create a learning environment in which that teacher was physically in the classroom with her students, while a second teacher joined the class through an online platform. A student who had been suspended from school was so eager not to miss this class, he continued to attend virtually by using his avatar.

Lessons Learned:

- Adults must resist fear of trying new tools. With emerging media, educators don't always have to be experts. They can learn to use tools and platforms alongside their students.
- In game design and other forms of online learning and creation, the process of inquiry is just as important as — if not more important than — the final product.

AmeriCorps, Parents & Khan Academy

Thurgood Marshall Academy for Leadership and Social Change (TMALSC) is a Harlem middle school that focuses on college preparation and readiness for life in a global society. As a member of TASC's network of expanded learning time schools, it partners with Abyssinian Development Corporation (ADC) to expand the learning day an extra three hours. Terrance Roumph, a math teacher, uses Khan Academy's online video library to provide students with interactive practice exercises, immediate assessment and feedback after 3 PM. Students view tutorial videos and practice at their own pace (similar services include MathTV and TeacherTube).

Mr. Roumph' students review the day's math concepts and preview the next day's topics. Embedded assessment and tracking components give him data on their understanding. The immediate feedback allows him to plan face-to-face interventions with students. Thanks to the school's shared staffing with ADC, Mr. Roumph is joined by an AmeriCorps member, Laura Walker, who helps students with everything from logging on to emotional issues while Mr. Roumph focuses on math.

Breakthrough Moment:

It wasn't Mr. Roumph's primary goal, but he found that using online tutorials engages parents and guardians, who log on to help their kids at home and track their progress. One parent worked all night with his child on a Khan Academy problem. Other parents have developed a better understanding of the math content their students are expected to master.

Lessons Learned:

- Individual teachers and community educators can lead innovation in schools and programs that are new to learning technologies.
- Students can go at their own pace online, accelerating or reviewing challenging content, a level of personalization that can require minimal teacher time.

Systems Thinking with Digital Media[5]

Institute of Play (IOP) is a nonprofit organization that combines gaming with learning in and out of school. Through game play, students develop such critical skills as systems-thinking. In 2007, New Visions for Public Schools and Institute of Play received a grant from the MacArthur Foundation to develop a school curriculum enriched with technology and media. Quest to Learn, a middle school, opened in 2009.

Short Circuit Studio is an IOP after-school program in which students have created talking paintings and a paper scarecrow with a sensor and speakers. It senses the proximity of pigeons and scares them away. Students create art and design projects that encourage them to tinker with both physical and digital materials such as electronic circuits, conductive fabric and construction paper. They're assessed on the creation process and the final product. The goal is to help students become critical consumers and constructive producers of new media and culture and social advocates for better futures.

Breakthrough Moment:

"R" was a naturally inquisitive student who excelled in an IOP after-school program because he was given time to apply technology and design principals and ask questions, digress and explore. He was unstoppable, designing structures, mousetraps and bracelets and incorporating new knowledge into his classroom work. "That's the beauty of the informal learning space," said IOP Program Manager Leah Gilliam. "Often there's just more room, to take things apart and put them together in new ways, and discover that your quirky penchant for tape is just your inner engineer waiting to emerge."

Lessons Learned:

- Access to high-quality tools such as iPads and smart boards can be a barrier for schools and community partners. Seek out and partner with organizations that have a technology emphasis and can bring in the tools needed for technology-based curricular innovations.
- Use cloud computing and open-source software to cut down on expenses.

Practice Recommendations

Schools and community organizations together can:

- Extend lessons through virtual worlds, social media, and shared software
- Create interactive lesson plans based on media students understand and enjoy using regularly.
- Jointly personalize and differentiate learning experiences using online tools and assessments for in-class and out-of-class learning.
- Use e-books and other free resources created by organizations such as PBS Kids that can be downloaded at no cost
- Tap public libraries and their media centers to give kids places to "tinker" with e-tools
- Share information and feedback through social media websites and online personal learning networks for education professionals

Policy Recommendations

Policymakers also have a role to play in supporting these innovative education practices. They should:

- Ensure school and youth-serving organizations' technology policies maintain student safety without blocking off their passions or dampening their motivation.
- Support partnerships between schools, families, cultural institutions and community organizations that help partners to maximize resources and align traditional and expanded learning experiences.
- Make public investment in Broadband and wireless access a priority.
- Pursue research and base spending decisions on ways technology can be most effectively used to increase achievement and support the social and emotional development of students.
- Provide flexibility in funding streams and regulatory language that allows and encourages programs to employ technology-enabled learning strategies.
- Support pilot initiatives that allow schools and community-based organizations to pilot innovative pedagogies using emerging technology, such as educational apps on mobile devices.
- States should create a robust online infrastructure that provides teachers, students, families and informal educators with connected learning tools and resources that they are able to access anywhere and anytime.

Acknowledgements

This paper was authored by **Jennifer Siaca Curry** of TASC and **Rochelle Jackson-Smarr**, TASC Graduate Student Intern. We thank the many individuals who contributed to this report, with special mention of those who presented at the 2011 TASC Digital Learning Forum, hosted our visits to their schools and programs and/or sat for interviews during fall, 2011. They are **Jaime Casap**, Google; **Karen Cator**, Office of Educational Technology, U.S. Department of Education; **An-Me Chung**, John D. & Catherine T. MacArthur Foundation; **Robin Fleshman**, The Children's Aid Society; **Alan Gershenfeld**, E-Line Media; **Leah Gilliam**, Institute of Play; **Maggie Johnson**, Google; **Pamela Johnson**, Ready to Learn, Corporation for Public Broadcasting; **Barry Joseph**, Global Kids; **Chris Lawrence**, HIVE Learning Network NYC; **Marc Lesser**, MOUSE; **Daria Ng**, Global Kids; **Zainab Oni**, MOUSE Corps; **Michael Robbins**, U.S. Department of Education; **Patricia Quigley**, CS 61; **Terrance Roumph**, Thurgood Marshall Academy for Leadership and Change; **Katie Salen**, Institute of Play; **Bill Tucker**, Education Sector; **Tom Vander Ark**, OpenEd Solutions; **Arthur VanderVeen; Laura Walker**, Abyssinian Development Corporation.

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Sponsorship

MOTOROLA MOBILITY FOUNDATION

TASC thanks the Motorola Mobility Foundation for its sponsorship of this paper.

About TASC

TASC's mission is to give all kids expanded learning opportunities that support, educate and inspire them. Since our founding in 1998 we have helped 375,000 kids, supported more than 450 New York City public schools, partnered with more than 300 community and cultural organizations and colleges and trained 16,000 community members to work in schools. For more information, please contact Lucy N. Friedman, President, of at lfriedman@tascorp.org or (646) 943-8700.

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