

Closing the Broadband Student Performance Gap

The Michigan Moonshot initiative addresses the student and community broadband access gap in Michigan by leveraging the efforts of a broad coalition of stakeholders.

By Charlotte Bewersdorff / *Merit Network*

As is true in many states, a large percentage of Michigan students lack access to broadband, diminishing their capacity to succeed in the increasingly technology- and information-based economy of the 21st century. This impact isn't limited to the K–12 community; digital information has reshaped how individuals participate in nearly every dimension of society. It is imperative that communities leverage broadband network access to eliminate the homework gap and improve education, socioeconomic equality, telemedicine, public safety and economic development to maintain and grow the quality of life for residents.

The Michigan Moonshot, developed by Merit Network, is one approach of many that will be required to address the digital divide. This call to action is an initiative to expand broadband access to all citizens through three key areas: policy and funding, data and mapping, and education and resources.

Meeting the broadband access challenge requires shared vision and partnerships from a coalition of stakeholders: public, nonprofit and private organizations; service providers; governmental agencies; educational institutions; regional broadband champions; policymakers and citizens. An ecosystem of partners and collaboration is critical for community broadband network success, and that is what the Michigan Moonshot is all about.

One key milestone for this project included the completion of the Michigan Moonshot Broadband Framework. This free, crowdsourced document provides a basis for planning community roadmaps. It contains overviews on policy and technology, community success stories, links to myriad resources and planning tools from national broadband leaders, and a phased plan for building a regional network.

STUDENT PERFORMANCE GAP

Another achievement of the Michigan Moonshot is the completion of the Broadband and Student Performance Gaps study conducted by the Quello Center at Michigan State University in partnership with Merit Network and M-Lab (see <http://quello.msu.edu/broadbandgap>). This study, started in 2019, investigated the consequences of poor and absent home broadband access for the academic achievement of students in rural Michigan school districts. It aimed to understand how home internet access is related to students' grades, digital skills, homework completion, standardized test scores, interest in post-secondary education and career goals. The results revealed that the "homework gap" is part of a much broader "performance gap," with repercussions not only for school achievement but also for life opportunities.

Students who do not have home internet access perform more poorly in a range of metrics. Middle and high school students

with high-speed internet access at home have more digital skills, earn higher grades and perform better on standardized tests, such as the SAT. This research substantiates the idea that a lack of internet access impedes the development of critical skills needed to competently participate in the digital economy. Consequently, entire regions that lack internet access – because of unaffordability, not knowing the benefits of connectivity or missing infrastructure – may be disadvantaged long-term.

COMBATING BAD MAPPING

One major challenge for communities seeking federal or state funding is combating the over-reported broadband access maps currently used to drive investment. Beyond its pilot research study, Merit can leverage the citizen science data collection methodology to provide communities with unbiased

and granular connectivity maps.

Citizen science helps build public trust in research. By involving non-researchers in the scientific process, researchers can understand perspectives of the public. Citizen science platforms address a range of projects to help with project building and hosting capabilities.

By utilizing tools such as the Michigan Moonshot Broadband Framework and applying techniques such as citizen science data collection,

communities can confidently make progress on their broadband journeys. ❖

Charlotte Bewersdorff is the VP for community engagement at Merit Network, a nonprofit, member-owned organization governed by Michigan's public universities that owns and operates America's longest-running regional research and education network and provides networking, security and community services to nonprofits across the state.

MORE INFORMATION

To learn more about the Michigan Moonshot or to access the free step-by-step guide to planning, building and running a community network, visit Merit.edu/Moonshot.

Find additional information about the broadband and student performance gaps study at BroadbandGap.net.

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