



DQE Education Data Sheet

The education sector faces two key challenges:

1. Bringing educational programming, testing and collaboration into the digital age
2. Upgrading legacy network infrastructure to handle evolving digital learning technologies

In this data sheet, we show decision-makers in school districts, universities and other educational institutions how DQE can provide them with the fiber-based network solutions they need to improve learning, collaboration and research outcomes.

Many school districts and other educational institutions still rely on legacy network solutions like copper-coax cable and even wireless architectures. In rural areas, some schools even depend on microwave transmission for their instructional and learning requirements. Yet today's classrooms are increasingly being shaped by advancements in cloud computing, virtual/augmented reality, learning analytics and mobility. As a result, fiber offers the educational sector clear benefits that other networking technologies do not match. Key advantages include:

- Higher Bandwidth
- Improved Internet Speeds
- Security
- Lower Latency
- Increased Cloud Access
- Better Signal Strength

Fiber optic internet is many times faster than other competing network connectivity options. Less vulnerable to cyberattacks and inherently designed for fast downloads/uploads of huge files, it is perfect for the growing number of teachers and students leveraging cloud services to access

information and collaborate on projects. Best of all, fiber's signal strength can last 40 years, providing an excellent way for educational institutions to future proof their networks for the next generation of technological advancements.

Educational Trends Driving Demand for Fiber

Here is a list of key trends driving demand for fiber optic networks for school districts, universities and other learning institution.

- eLearning Applications
- Learning Analytics
- Online Testing
- Cloud Computing
- Real-Time Collaboration
- Internet of Things (IoT) and 5G Utilization
- HD Content Streaming, Virtual/Augmented Reality

All these are data intensive and require networks with high capacity, high speeds and complete reliability. Modern educators are increasingly interested in leveraging these new technologies to create custom teaching and learning methodologies that can accommodate students of all abilities. Teachers, students and researchers also want the ability to collaborate through various modes including online forum platforms, instant chat applications and a host of other unified communications toolsets.

Additionally, digital natives – Generation Z and beyond – are increasingly dominating the education sector from K-12 to post-secondary levels. They bring with them an ingrained preference for digitally mediated learning and expression through video streaming, game-based instruction and even AR/VR interactivity. Having fast networks that can handle high volumes of data greatly increases instructional and student performance. For districts with multiple schools in their purview, investing in purpose-built, fiber-optic networks eliminates the disadvantages of disparate network architectures, ensuring all students have the same potential for enhanced learning opportunities.

DQE Communications Solutions

At DQE, we offer educational institutions a variety of customizable, fiber-based network solutions that can meet their requirements for fast, reliable bandwidth. Here's the best of what we have to offer::

Internet Services

DQE offers four tiers of reliable, scalable and flexible Internet Services to meet the needs of school districts and other educational institutions – Basic, Dedicated, Highly Available and Internet Lite. All feature 100% symmetrical upload and download speeds as well as access to a secure customer web portal to monitor bandwidth usage and network performance.

DDoS Mitigation

DDoS attacks are becoming more frequent, occurring both from within and outside educational institutions. A successful attack can disrupt normal operations, impede access to information and compromise intellectual property. For customers already subscribing to a DQE Internet Solution, our DDoS Mitigation Service offers a clean pipe solution that can protect your networks from attacks, improving overall availability and response times to potential issues. The simplicity of our DDoS mitigation service and the responsiveness of our NOC give our customers real time protection and peace of mind to concentrate on education, research and collaboration.

Metro Ethernet

DQE's Metro Ethernet solution extends your DQE's Metro Ethernet solution extends your metropolitan-area Ethernet network between educational institutions or

to the public internet. With committed speeds from 10 Mbps to 10 Gbps, customers can extend their Ethernet LAN over DQE's WAN, connecting each user via a redundant, secure 100% fiber optic network. As a true private network, all configurations are inherently more secure than internet-based Virtual Private Network (VPN) solutions.

Dark Fiber

DQE's Dark Fiber solution is essentially fiber without all the electronics. It's a technology-neutral, dedicated and scalable network solution that can be used for a host of applications. It gives you the ability to light the fiber with your own network components and retain direct operational control over your network at a fixed cost.

DQE Benefits

In addition to our best-in-class services, you also get unmatched customer service. Here's what you can expect when you partner with us:

- 100% Fiber Optic Network owned and managed by DQE
- Custom Network Solutions
- Speed
- Reliability
- One Point of Contact - 24/7/365 NOC
- Customer Control Center
- Safety Conscious Workers

Improve your educational, collaboration and research opportunities by bringing fiber connectivity to institutions and school districts.

About DQE Communications

Headquartered in Pittsburgh, Pennsylvania, DQE Communications is a fiber-optic Internet and data networking access provider for businesses and carriers throughout Pennsylvania, West Virginia, and Ohio. A subsidiary of Duquesne Light Holdings, DQE was established in 1997 to provide businesses with secure, reliable, and flexible network services. The company's continually expanding fiber-optic network currently spans over 4,200 miles, 2,700 buildings, 17 data centers, and 121 business parks. When working with DQE, you get a partner who is dedicated to understanding your needs and committed to delivering a solution that is right for your business.