

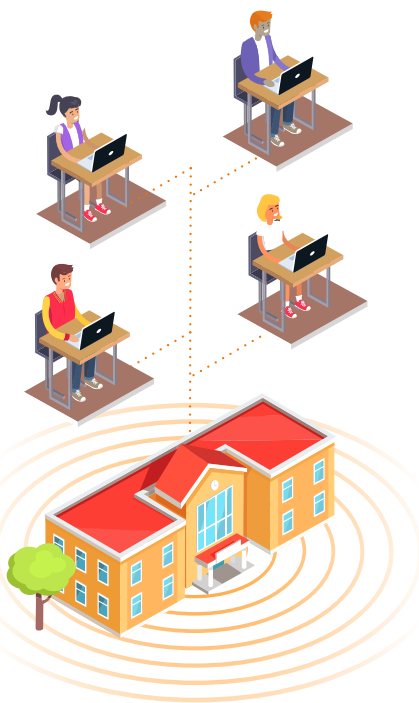
TRANSITION TO **DIGITAL LEARNING**

In many ways, the connectivity and access to the internet has transformed education at all levels. The ability for students to access learning materials online as well as for instructors to share lessons and collaborate has revolutionized teaching and learning. Where education used to be concentrated in school buildings, it can now be accessed by millions of people (almost) anywhere.



80%

Of schools can deliver common area access.



WIRED ONLY

ACCESS

- Lab-centric classrooms

USAGE

- Small files/PDFs

INFRASTRUCTURE

- Classroom switch
- 10/100Mbps edge
- 1Gbps backbone

PHASE

1

WIRELESS ACCESS POINTS

ACCESS

- Teacher-centric classrooms

USAGE

- Interactive E-Books
- Google Docs / Office 365

INFRASTRUCTURE

- 802.11ac (Cloud-managed)
- 1 Gbps edge with PoE
- 10 Gbps backbone

PHASE

2

CAMPUS-WIDE WIRELESS/REMOTE

ACCESS

- Student-centric classrooms
- Secure campus / remote access

USAGE

- Courseware and denser files
- VR, video and gaming

INFRASTRUCTURE

- 2.5 Gbps 802.11ac Wi-Fi
- 2.5 Gbps edge with 60W PoE
- 10/40 Gbps backbone

PHASE

3

SOCIAL/COMMUNITY

ACCESS

- Community and industry
- Collaboration between schools and nations

USAGE

- Pervasive video conferencing and streaming
- Big data analytics

INFRASTRUCTURE

- 802.11ax
- 5 Gbps edge with 90W PoE+
- 40 Gbps backbone

PHASE

4

HIGH DENSITY NET ECOSYSTEM

ACCESS

- Global / Internet of things

USAGE

- Virtual teaching
- Pervasive computing

INFRASTRUCTURE

- Machine learning/AI
- 802.11ax + LTE + IoT
- 5/10 Gbps edge
- 100 Gbps backbone

PHASE

5

5 Million

Households with school-aged children do not have access to the internet.

75%

Of school systems surveyed do not have any off-campus strategies for providing connectivity to students at home and after school

80%

Of schools cite institution-wide network coverage – although it is inadequate for more advanced digital curricula and tools

Most instructors described their network as “unreliable.”

Sources: Learning Counsel Digital Curriculum Strategy Survey and Assessment Tool 2016; Pew Research Center, 2014