



Connectivity class acts make learning truly a treasure that follows its owner everywhere

Good Wi-Fi experience sets base for managing teaching and stimulating learning away from confines of classroom

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The Covid-19 pandemic has directly impacted students at all levels – from early education to post-graduate – and in every part of the world as governments order nationwide closures of education institutions at the first wave of its spread.

The resulting rise of online distance learning, whereby teaching is undertaken remotely and on digital platforms has added a new twist to the Chinese proverb:

“Learning is a treasure that will follow its owner everywhere.”

By March 2020, around 1.4 billion children worldwide were out of the classroom due to school closures. The pandemic forced education leaders into a sudden shift toward implementing distance learning with virtual classrooms.

“In this mode, you need the ability for communications and collaboration wherever you are, regardless if connecting by wire, Wi-Fi or mobile connection,” said Richard Nedwich, global director of Education at CommScope. “For effective distance learning, there are at least two issues to consider. Is the academic software used by your curriculum ready for distance learning at scale, so that it is a good experience and engaging to the students? And do you have the network infrastructure in place for reliable connectivity so every teacher can teach the session and every student can attend the session?”



Make learning happen

Since then, approaches to re-opening schools vary from trying to attain pre-pandemic normal, to reopening partially with a hybrid approach, to maintaining closure until a vaccine is available.

Schools have staggered schedules and reduced class sizes as part of containment and distancing measures; provided online learning; and increased learning time outdoors to mitigate transmission.

These strategies depend on reliable and high-performing connectivity and access for all students to the content, technology and tools they need to keep learning away from school. Outdoor connectivity coverage in the community, such as in school parking lots, at public library parking lots and even from [school buses deployed as mobile hotspots](#), has helped to improve digital equity.

In the US, connectivity giant CommScope has worked with key stakeholders to [equip school buses with](#)

[outdoor access points \(APs\), cellular LTE backhaul, and PoE switching](#). The buses are parked in strategic locations so students get good internet connectivity from their neighbourhoods to complete schoolwork.

Connectivity is also required to support communication tools, learning management systems or curriculum and professional development resources that enable teachers to not only create engaging educational content but also manage teaching to help students increase retention of information and stimulate learning.

Other critical considerations include [remote network power for mobile devices](#), device security, and school campus security surveillance.

Distance learning close by

With the sudden demand for remote connectivity, Nedwich expects schools to shift priorities from other hardware projects toward network upgrades or updates as the pandemic's economic impact squeezes budgets. Planning while implementing is a necessary option as some schools gradually reopen.

[New Zealand Ministry of Education \(MoE\)](#), for example, is helping 2,500 schools meet their connectivity demands through deployment of up to 38,000 Wi-Fi 6 APs and 12,000 multi-gigabit switches over the next several years.

The upgrade brings faster and more reliable performance across connected devices. With increased video streaming and cloud-based educational services, the MoE opted to standardize on the Wi-Fi 6 CERTIFIED RUCKUS R650 indoor AP, optimised for video-centric learning and the use of virtual reality in classrooms. These are coupled with [RUCKUS ICX7150, ICX7450, ICX7650 and ICX7850 switches with 10GbE connectivity](#).

The MoE is now able to manage their network from a single platform, making trouble-shooting much easier. Both switching and Wi-Fi networks are managed by [RUCKUS SmartZone Controllers](#) with extended reporting and network analytics.

“We want to equip our students with the right skills through digital technologies,” said Kim Shannon, head of Education Infrastructure Service, New Zealand MoE. “Looking to the future, educators have the opportunity to redefine how we communicate and collaborate.”

Digital equity and security

RUCKUS Wi-Fi 6 CERTIFIED APs from CommScope support IoT technologies for multiple use cases from asset tracking to connected door locks – helpful for counting real-time occupancy or protecting empty school compounds during lockdowns. Benefits also include cost savings from fewer cabled gateways and simpler network management using various options – RUCKUS SmartZone Network Controller, RUCKUS IoT Controller, RUCKUS ZoneDirector controller, [RUCKUS cloud-managed networks](#), and [Ruckus Unleashed](#) – with network intelligence powered by machine learning and artificial intelligence (AI) through [RUCKUS Cloud Analytics](#).



These technologies underpin CommScope's [Smart Campus vision](#) for the education sector. A Smart Campus network links devices, applications and people over a common infrastructure so staff, students and teachers/faculty can interact with each other in innovative ways. But IT organisations need to address network scaling, student data privacy, and network reliability for digital instruction.

In India, [Thapar Institute of Engineering & Technology's campus network](#) accommodates over 7,000 devices concurrently with seamless Wi-Fi. A self-organizing peer-to-peer wireless network where participant nodes cooperate to route packets facilitated connectivity throughout the campus. Dynamic Pre-Shared Keys ensure real-time network on-boarding for students and staff while RUCKUS ZoneDirector and SmartZone controllers scale and manage both wired switches and APs through a unified interface.

In South Korea, [Dongguk Gyeongju University](#) overcame similar challenges via their network upgrade. "With the increase in video-centric learning, whether that be remote, onsite, in a classroom or dorm room, we are finding that our more than 11,000 students across our four campuses want better Wi-Fi connections," said Eunhyun Kim, manager of Information Planning Department, which deployed RUCKUS APs with BeamFlex and the RUCKUS Ultra-High-Density Technology Suite.

To secure student connections and protect student data privacy, the [Ruckus Cloudpath Enrollment System](#) software-as-a-service is a great fit for schools requiring secure network access for BYOD, guest users and IT-owned devices and streamlined device onboarding.

Further simplifying and proactively managing network performance for the implementation of distance



learning and virtual classrooms is the Ruckus Cloud AI-enabled network management-as-a-service platform, which gives administrators a unified view of all connected APs, switches and clients.

A [free Ruckus Cloud trial](#) allows you to assess how easily your organisation can define and monitor network performance that satisfy your users, wherever they are located.

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