How WiFi gets top grades in Education
Connectivity has never been more important in education, whether that is to help students learn and keep up with the evolution of Education Technology (EdTech), enrich school and campus life, or to support staff. The latest developments in WiFi help educators and their technology IT resellers keep pace with ever-growing demand, while at the same time keeping control of costs, minimizing installation and maintenance effort, together with improved security and flexibility. When it comes to keeping the education sector connected, WiFi from NETGEAR is at the top of its class.
Education depends on great connectivity

All over the world, whether government-funded or private, the dependency on technology in education is indisputable. Consistent, fast connectivity is no longer a ‘nice to have’: it is a fundamental part of how learning is delivered, as well as enriching student life and helping staff carry out their roles effectively. This has given rise to EdTech, which encompasses everything from classroom computers, to submitting homework online, to entire online course platforms and supporting remote students.

Also, EdTech is evolving fast: the use of video is becoming standard, plus personalization, adaptive learning, gamification and immersion technologies are going to transform the way students of all ages learn. Educators and students increasingly rely on being able to upload or download cloud-based content, as well as the need to send and store material on local area networks.

Then there is school or campus life: students, staff and guests all expect to easily connect their personal devices to a network. From the dorm to the classroom, from the sports field to the cafeteria, everyone on site expects a seamless connected experience. All this puts considerable pressure on network traffic and that will only continue to grow.
Overcoming WiFi barriers

While the expectations from connectivity are clear, keeping up with them - until recently - not been so straightforward. For instance, multiple classrooms and other locations, together with users who roam across the site (often one that has physical restrictions) means WiFi is the obvious answer to keep users and devices connected.

However, many legacy WiFi systems installed in education environments are still using old protocols, such as 802.11n, which are no longer fast enough to support today's requirements. So, the first step is to accept that it is time to change, and upgrade to a more modern protocol, typically 802.11ac WiFi, which has become the de facto in recent times and even more recently 802.11ax (WiFi6).

Next up is the need to choose a WiFi system that is fit-for-purpose and this is where there are a lot of varying factors that can make decision-making hard. Whether there is dedicated IT or network manager for a single school or college, or someone managing the technology needs of a number of educational sites in a district, ease-of-deployment and management is vital. Regardless of skill-level, these are busy people who cannot afford to spend excessive time overseeing WiFi installations and upgrades, working out how to manage unnecessary and complicated features, or dealing with trouble-shooting.

Then there is the whole topic of budget and total-cost-of-ownership. Even if the private sector, cost is usually a big factor in IT infrastructure: large capital upfront expenditure, or hidden costs and penalties if the education customer decides to scale-up in the future must be avoided. Many existing WiFi solutions on the market are either too low-end for the education sector, or are really designed for large enterprises, with prohibitive ticket prices, escalating costs, and unwanted complexity.

The education market has a couple of additional big requirements, such as in-built security to protect students and confidential data. Also, the nature of many educational buildings means it is not easy or even impossible to run cables across parts of the site (for instance, due to layout, or being a protected heritage building). To minimize disruption to student life, network installation has to happen in limited windows of time, such as the summer vacation period. Educators may find they need to create pop-up classrooms to accommodate extra students, so again, there is limited time to carry out work.
WiFi fit for a new decade of EdTech

The answer is to choose the very latest in proven WiFi that is a perfect fit for education, both today and a foundation for the future. The NETGEAR portfolio includes advanced yet simple to manage wireless access points, which can be mixed and matched to give education customers all the WiFi features they need for comprehensive roaming, great coverage and performance.

Cost benefits

Like all NETGEAR products designed for the business market, the range provides outstanding technology at an affordable, predictable price. Up-front costs are minimal, with no future hidden extras, penalties or the risk of vendor lock-in. Plus, due the powerful performance of the NETGEAR access points, fewer are needed to support the target coverage and bandwidth, further reducing investment. Installation is virtually zero-touch, with pre-set configurations to suit many users’ needs, while still giving them the flexibility to customize.

Top 10 needs of WiFi in education

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<td><strong>1</strong></td>
<td><strong>2</strong></td>
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<tr>
<td>Coverage, speed, reliability</td>
<td>Security - protect students</td>
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<tr>
<td>Scheduling - switch-off out-of-hours</td>
<td>Separate WiFi accounts on one system</td>
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<td><strong>5</strong></td>
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<td>Fast and hassle-free deployment</td>
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<td>Scalability and option to customize</td>
<td>Easy management &amp; updates</td>
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<td>Predictable, affordable costs</td>
<td>Minimal capital investment</td>
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<td>Freedom and control</td>
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Simple to set-up, simple to manage

Beyond the hardware’s integral ease-of-use, the Insight WiFi portal takes this a step further, reducing the time that education managers have to spend setting up and managing WiFi networks.

Installations, diagnostics, trouble-shooting, analytics, and even changes to configurations can be handled ‘virtually’, whether via the web or even on a smartphone. So, for an IT manager responsible for multiple schools in a district, or a reseller supporting multiple education customers, all WiFi networks can be managed remotely, without needing site visits.

At the set-up stage, Insight automatically finds all the access points in the vicinity and then guide the user through how to configure the network, typically a ‘one touch’ step. Users report that setting up NETGEAR WiFi networks takes half the time as comparable systems.

Once installed, either the user or the reseller can monitor network traffic remotely via the Insight portal. Activity per user, status per device and downtime notifications all help education customers keep their WiFi networks running smoothly, with simplified management, advance notice of any impending issues.

Support

While no specialist skills or training are required, NETGEAR support is on hand if needed. NETGEAR provides education customers with a free site-survey before making a financial commitment, to help them and their installation-specialists optimize WiFi potential.
**Instant Mesh**

ETGEAR Instant Mesh is ideal for environments where extra connectivity is needed, but where cabling is not convenient or possible, or to create pop-up classrooms. The system’s design means that installing WiFi access points is possible in even the most challenging of environments: across ceilings, roofs, with options of wall or desktop mounting. WiFi networks can be quickly and simply installed or extended, without needing additional wiring. For those that need it, however, the WAC564 access point supports 4 integrated Gigabit Ethernet ports as well as WiFi, while the the WAC540 and the WAX610 also offers Power over Ethernet (PoE). Like the rest of the portfolio, Instant Mesh can be easily set-up and managed using the Insight portal.

**Secure**

Separate WiFi networks (SSIDs) can be set up for different user groups, such as employees or guests. This means that each set of users only has access to the permitted WiFi network. Insight also monitors who is using the network when or where, and checks for rogue systems or users trying to connect, while WiFi scheduling allows education managers to switch-off the system during specified times, for instance during the night.
The reseller opportunity

Education is a $6tn industry growing to $10tn by 2030 (source: Barclays Research, HolonIQ - Smart Estimates January 2019), so specialist technology suppliers have a huge opportunity. However, standing out from the crowd will become increasingly challenging in this competitive market, so ways to enhance the customer relationship is vital.

The latest wireless technology from NETGEAR transforms WiFi from something that is often an irritating problem to sort and into a value-add that can play a central role in any service provider’s portfolio. With education customers often seeking a single point-of-contact for all their IT, networking, AV and security technology requirements, WiFi creates a solid foundation on which to build. It also opens up the potential for new business models, such as subscription-based WiFi, whether as a standalone service or part of an education-focused package.

NETGEAR’s approach to WiFi benefits the installer as much as the end-user: rapid deployment, flexible installation, predictable costs and remote monitoring are good news all-round. Installers can minimize on-site time, reduce the dependency on being able to install during vacations. Pre-set configurations and virtually zero-touch deployment mean that staff do not need to add to their networking expertise.

Cloud-based WiFi management portal Insight Pro is a game-changer for resellers, giving them a simple, multi-tenant and highly scalable way to support hundreds of customers from one pane of glass. Networks can be remotely deployed and managed, without needing site visits, so any geographic barriers are removed: a reseller can offer managed WiFi to any education customer, anywhere in a country.

With its feature-rich monitoring capabilities, Insight identifies issues before they become problems. Fixes can be carried out on-site or remotely, using Insight. Networks expanded or reconfigured, without adding unwanted complexity. Compatible with a wide variety of NETGEAR equipment, Insight Pro provides professional-grade WiFi network management, including: segregated views per customer (based on user role and privileges). As well as wireless access points, switches and network storage can all be covered by one central dashboard.
More than just WiFi - high-performance switches & PoE

To complement its WiFi range, NETGEAR also provides a comprehensive portfolio of network switches, designed to support just about every education networking situation imaginable. Across copper and fiber, Power over Ethernet (PoE), 10Gbps and beyond, NETGEAR has a solution to fit a comprehensive variety of budgets and other requirements.

NETGEAR in education

With almost a quarter century of experience in network innovation, the NETGEAR strategy remains the same: superior-quality technology that is hassle-free to install and manage, at a price point that appeals to SMBs, including the education market. Global technical support is available to all customers without an additional cost, and NETGEAR also offers education customers and their installers with a free, no-commitment site-survey. Training for IT managers and installers is also available.
Meet wireless’ new star pupil: WiFi 6

WiFi 6 is a breakthrough in wireless technology, thanks to how it handles speed, performance, coverage and capacity. This new WiFi standard can treat every device on the network equally and faster. Speed gains range between 30% to 70%. This means high density environments like full lecture halls are not a connectivity challenge, even when there are hundreds of devices in use, each transmitting large volumes of content.

With both staff and pupils having more devices and consuming more data, WiFi 6 comes at the perfect time, giving education future-facing wireless. Many laptop and phone vendors have already launched WiFi 6 compatible products and much more is on the way.

For Education, WiFi 6 is perfect, providing comprehensive coverage, and able to support demanding applications, including: video streaming; interactive elearning; digital signage, conferencing; surveillance; door entry and other smart building systems. Everyone gets a great WiFi experience, consistently and campus-wide. WiFi 6 also includes extra security features and helps save battery life for some devices.

As a bonus, the coverage gains of WiFi 6 means that up to 50 per cent fewer wireless access points are needed, so the education budget goes even further. NETGEAR has a range of WiFi 6 Access Points ideal for education: affordable, secure, easy-to-set-up and managed through our award-winning Insight portal. The WiFi 6 Insight Managed Access Points are also fully compatible with our WiFi 5 Insight Access Points. The new WAX610 (indoor 2x2 Dual Band with PoE) and WAX610Y (the outdoor equivalent) can therefore be deployed with existing WAC500 series APs seamlessly.

More information on NETGEAR WiFi 6 for Business at www.netgear.com/business/WiFi6
Here are four examples of education customers who have successfully improved the student and campus WiFi experience using NETGEAR access points and Insight portal:

**Trinity Pawling School, USA**

One of North America’s leading independent schools for boys has furthered its commitment to providing its students with the best possible campus experience by investing in a high-bandwidth, secure, and flexible WiFi solution from NETGEAR. Bonus benefits include reduced costs, simple management, and a flexible, scalable platform for the future.

“NETGEAR products are rock solid. They have great business products at a great price point (half the price of comparable systems). Plus, the support is excellent, I can speak to an engineer quickly and get answers.”

Bryan Turner, Director of Information Technology

**Wenzhou Ouhai District Education Bureau, China**

Not only acquired a complete wireless and integrated cloud-managed platform within budget, it also saved on hardware costs by not having to purchase a large number of wireless controllers. In the long term, the bureau also saves on maintenance costs, plus network managers benefit from not having to travel between 60 schools.

**Dianbai, Maoming**

NETGEAR helped modernization of 183 schools with the launch of a smart, cloud-based campus project. For instance, one NETGEAR wireless system on its own can support 50-60 terminals in a classroom running smart lesson apps, even when streaming video.

**Tyne Coast College**

A 10Gb Ethernet NETGEAR solution helps support this fast-growing college, with flexibility, scalability and resilience to support up to 600 wireless access points, and an expanding number of students and connected devices.
How NETGEAR gets top marks in education WiFi:

Excellent enterprise-grade technology for minimal investment

Comprehensive security features

Fast, easy deployment out-of-the-box

Flexibility, customization & scalability when needed

Simple remote monitoring & management

Minimal up-front investment, no hidden extras or penalties

Global and local support, a proven track record