LEARNING IN A MOBILE-FIRST DIGITAL ENVIRONMENT

Digital learning in primary education

It's evident that today's #GenMobile students are showing up in classrooms knowing more about technology than previous generations. They've grown up tech-savvy and prefer to do everything on mobile devices. For them, untethered digital learning is fundamental for future success.

The optimized digital classroom

Classrooms are changing. We are seeing the impact of the Digital Revolution. Learning environments are now preparing students for their future work environments. Classrooms are shifting away from rows of desks, to an environment that promotes collaboration between students, teachers and learning devices. It's what we call the Optimized Digital Classroom.

Textbooks are being swapped out for mobile devices that provide up-to-date content in real time. Printed exams are transitioning to online assessments. 1:1 and BYOD initiatives are replacing wired computer labs. Skype and Google Hangouts are fueling new study groups. And personalized learning programs are developed to meet the individual needs of each student. Technology is transforming the way we educate our children. Schools are adopting these initiatives to deliver a rich learning experience by engaging students to use the devices and applications they thrive on.

This Digital Classroom needs to support 21st Century Learning, with 1:1 initiatives and Project Based Learning. It needs to provide anytime/anywhere access to Cloud-based apps like Google Apps for Education and Office 365e. It's a classroom that easily provides guest access and encourages student collaboration, that can also prioritize critical learning apps such as Online Assessments.

As a result, IT professionals in education need to plan for the future and build a next-generation infrastructure that supports this digital learning environment and emerging technologies. The following are critical elements to help you build the optimized Digital Classroom for mobile first learning, and beyond.

User group considerations

To implement digital learning, a school must build the right infrastructure. The needs of three different user groups should be considered.

- For students, access to digital learning tools must be fast and easy. The network infrastructure needs to be robust and reliable. While students are taking an exam or submitting an essay online, technology can't get in the way. The Wi-Fi used throughout the school needs to be enterprise-grade and stable.
- The second group are teachers. They need in-classroom technology to be easy and transparent. While students are engaging with their mobile devices, teachers need to maintain control of the classroom. They also need digital tools to enable roll calling, messaging with students and monitoring what students are doing during an exam. The new technology infrastructure must be automated and problem-free – so teachers can maximize their time interacting with students, and not troubleshooting technology.
- Administrators are the third piece of the mobile-first experience in education. All school districts operate on tight budgets, so administrators need to manage capital and operational expenses very carefully. They need access to analytical data that provides real-time feedback that justifies technology spending. They can only support investing in digital learning if it improves student achievement. And it can't break the patience of technical staff that must support it.

BUILDING A ROBUST WI-FI INFRASTRUCTURE

Constructing an intelligent Wi-Fi infrastructure

Providing a mobile-first experience ensures that the students have anytime/anywhere access for uninterrupted learning; whether it's on a school-issued device or a student's own personal device. Which means you'll need a Wi-Fi infrastructure that can support the demand of mobile devices along with the bandwidth-hungry applications running on them. There are several things you can do to prepare for this:

- Plan to support 3-4 mobile devices per student, teacher devices, wireless printers, and other wireless equipment in the classroom. That means, in a classroom of 30 students, about 100 devices will connect to the network.
- Assess classroom application needs by collaborating with teachers to support a rich multimedia curriculum. For example, HD-quality video streaming requires 4 Mbps and some interactive learning games require up to 1 Mbps of bandwidth per user.
- Ensure high performance and connectivity through smart, dynamic access point (AP) technology; capable of prioritizing critical learning and testing applications over other apps, while blocking inappropriate content.
- Setup a policy management system that can implement enterprise-wide policies, strong security and an enhanced user experience for authenticated users and guests, with little to no touch.

Constructing an intelligent wired infrastructure

A robust Wi-Fi deployment starts with a wired infrastructure. Connectivity is only as good as its foundation – and not every device is built to transmit at the same speed. Be sure your wired infrastructure can adapt to various Wi-Fi use cases. When planning out your wired network, consider the following:

- Plan to support multiple data drops per classroom; access point, projector, telephone and other wired devices.
- Ensure growth and flexibility, investing in multi-gigabit access solutions that can increase bandwidth speeds per port on existing cabling for cost-effective and convenient network upgrades.
- Protect investment in wired infrastructure with switches that can scale in capacity and functionality, like modular and stackable switches that can take advantage of software defined networking applications.
- Manage the entire network with real-time monitoring, proactive alerts, historical reporting and fast, efficient troubleshooting.

BENEFITS AND SOLUTIONS FOR EDUCATION

ARUBA SOLUTION PORTFOLIO		
	Administrative Office	**Campus**
Switches	Aruba 5400R	Aruba 3810 or Aruba 2920
Wireless Access Points	Aruba 215 or 320 APs	Aruba 205 or 215 APs (classroom) Aruba 320 APs (lecture hall) Aruba 270 APs (outdoor)
WLAN Controller	On-Premise – Aruba 7200 Cloud-based – Aruba Central Controllerless – Aruba Instant	
Security	Aruba ClearPass Policy Enforcement Firewall (PEF) RF Protect	
Network Management	Aruba AirWave	
Mobile Engagement	Meridian with Aruba Beacons and Sensors	
Software Defined Networking	HPE SDN App Store 25+ Apps Available	