A touch of class

Intel trial: Demonstrating the ease with which Intel Inside® touch-enabled computers can be adopted in the classroom, to the benefit of students, teachers and educational institutions.
Introduction

It's no exaggeration to say that mobile computing is everywhere – at home, in the office, in coffee shops up and down the high street…

And, of course, in schools and colleges.

Technology is an essential part of everyday life for the vast majority of the UK’s students. So much so that a laptop PC or tablet has now taken its place alongside the pen and paper in a student’s educational toolkit.

And powerful tools they are, too.

Mobile computers help students to research material relevant to their studies, write essays, complete coursework... All of which provides valuable experience, helping them to succeed in an increasingly technology-driven world.

For teachers, the benefits of mobile computing are equally compelling. It helps them to plan lessons, keep up with marking, work on and store reports... giving them more time to spend with students.

But the benefits of mobile computers in a learning environment are multiplied considerably when all students and teachers within a school or college are equipped with compatible devices.

It enables students to interact with each other and their teachers, collaborate on projects, upload comments and homework and receive feedback from teachers and peers.

Teachers can post lesson plans, homework, coursework tasks and resources for their students to access. They can employ a variety of apps to make teaching more interactive, more engaging and more rewarding, and share those resources with colleagues.

As for academic institutions themselves, the advantages of mobile computing, in addition to more engaged students and inspired and inspiring teachers, include more streamlined management, improved connectedness and better use of existing IT facilities.

But to achieve these benefits, it’s important to choose the right tools for the job…

The City of Liverpool College was one of the first educational institutions in the UK to equip their entire teaching staff – a team of 600 – with Intel powered Microsoft Windows* 8 tablets, with the aim of helping them to deliver more productive and inspirational instruction.

They chose tablets for the freedom they gave teachers to move around and interact directly with individual learners.

And they chose Intel because, in the words of Ken Ryan, Head of IT at the City of Liverpool College, "Combining Microsoft Windows 8 with the Intel® Atom™ processor was a no-brainer for us. Intel technology gives the greatest performance that we need to run our Microsoft applications, no matter what device."

**Why Intel?**

Quite simply, Intel unlocks the full Windows 8 experience, helping headteachers empower their staff to inspire and inform learners, whilst streamlining and coordinating their workload, and contributing to the smooth running of the school.

**Greater compatibility** – enables you to work with the wide range of devices your teachers and students will have

**Do more on devices with Intel Inside®** – they are compatible with Windows Store apps and familiar desktop apps. Intel processor-based devices work with new and existing peripherals at full functionality

**Great performance** – less time waiting for apps to load means more time for teachers to spend with learners

**Wirelessly connect video to a broader range of displays** – make the most of existing equipment, without messing about with cables

**High quality video streaming** – show videos, artwork and documents in the high quality they deserve

**Stay better synched to your data with phone-like connectedness and improved battery life** – keep in touch and up-to-date, all day long

**Smooth and consistent Windows 8 touchpad experience** – makes all-day use of a device a pleasure

**Great performance and resolution on tablets with smaller screens** – brings classes and learners’ work to life

**Devices are responsive and ready for use** – saves time in lessons and helps teachers keep learners’ attention

**Security & Manageability** – enterprise level security and manageability features at the hardware and software layers ensuring IT data is not compromised

The value of Intel powered Microsoft Windows* 8 devices in a learning environment

"If we are to keep pace with our competitors, we need fundamental, radical reform in the curriculum, in teaching, and in the way we use technology in the classroom."

Michael Gove – Speech to The Royal Society on maths and science - 29 June 2011
Why doesn’t every student and every teacher have a mobile computer?

Given the benefits of mobile devices to students, teachers and educational institutions, what’s stopping a universal uptake of the technology?

Of course, when it comes to teachers and schools adopting IT initiatives, funding can be an issue. But given the lower cost of today’s tablets, there’s often more to it than that.

Seeing how technology is shaping the future of education, many teachers are avid supporters of technology in the classroom.

“The last five years I have tried to inspire, shape and change how teachers teach because I passionately believe there is a huge change in the way people learn.”

Neil Price – Teacher

“I am mostly self-taught and have a ‘click and see what happens’ approach to IT. I come from a creative/arts background and I like to focus on what IT can do for me and my students, but I usually enjoy working out how to get there. I’m quite good at seeing the potential in tools not necessarily designed with an educational purpose in mind and adapting it to my own needs.”

Charlotte Assomo – Teacher

But for others, the issue can initially be one of a lack of confidence. In fact, it is likely many students have more experience with touch-enabled devices than educators. This has the potential to limit teachers’ capability and reduce innovation.

“I do feel a little overwhelmed and out of my comfort zone, but also excited about what the potential could be with use of these devices in education.”

Leon Annett – Teacher

So Intel commissioned a trial to discover how quickly teachers with different levels of IT experience could find value in Intel equipped devices and apply it in the classroom.

Over the last few years there have been no real improvements in pupils’ access to technology in schools. The pupil: computer ratio for secondary schools is around 3:1.*

Teachers have access to classroom technologies such as interactive whiteboards, desktops and digital cameras, but their access to handheld technologies is limited.*

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* Becta's Harnessing Technology Survey (2010).
The Intel trial

It’s clear that a PC with Intel Inside® can help educators to go beyond the limits of a traditional classroom, giving them access to a wide range of educational tools, software, and resources. What’s also apparent is that Intel equipped devices can benefit the day-to-day management of an institution as well – providing time, labour and cost savings in many different areas.

But we wanted to know more about how IT is used at the educational coalface, and how quickly less confident teachers could adopt mobile computing devices and find apps they could use in the classroom. The objective was to help teachers understand, integrate and utilise touch-enabled portable computing devices in the classroom, to improve their lesson planning and teaching. So we gave 15 teachers, from three colleges, one secondary school and one preparatory school, a mix of trial Ultrabook™ devices, tablets and 2 in 1 devices, all with the latest touch-screen technology and powered by the latest Intel® Core™ processor.

We created a program of hands-on training and real experiences, which helped teachers to improve their expertise in using touch devices in education. The program was created in conjunction with a nominated UK reseller. Participants first attended a ‘Teach the Teacher’ workshop, which showed them the benefits of the devices, the operating system and applications suitable for education. They were then left with the trial devices over a three-month period, to experiment and integrate them into their daily working lives. The teachers were supported with monthly checkpoint support calls, an online forum, and a blog where they could keep track of their learning experience. Teachers were also asked to use Movie Maker® to create a short video with their students, and the makers of the most creative video won a tablet for their class. Some truly superb videos were posted on the program’s forum and YouTube®, like this one:

Assessing using Windows® 8 - Click here to see video

**Trial devices:**

Small yet powerful, light and highly portable, Ultrabook devices are essentially mini laptops. So they’re perfect for carrying from classroom to classroom, right through the day, without weighing down their users.

Combining the benefits of both full-sized laptops and tablets, 2 in 1 devices may be heavier, but this is more than offset by their incredible flexibility, and the ability to use them anywhere.

Usually even lighter than Ultrabook devices, the sheer portability of tablets makes them ideal for use inside the classroom – and outside.

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“The great thing about this project is that we have all been instructed to use the devices in any way we wish to support our practice and our students. I have some ideas already but am also looking forward to exploring the device and apps further and finding inspiration for other approaches I could adopt. Having been an advocate of using technology (with purpose) since returning to teaching in 2009 I am excited at the prospect.”

Graham Carter – Teacher
We were looking for feedback on four key points

1) Value of the Intel and Windows* 8 devices to teachers with different levels of IT experience

Once they were equipped with their new trial devices, we encouraged the teachers to explore how they could incorporate technology into their lessons and help classroom engagement. As part of this process, we challenged them to find apps and programmes that could be used to enhance learning, and to see how they could integrate the touch-screen devices into lessons where they are working collaboratively with learners.

Their discoveries, feedback and conversations were shared via a blog – which also provided us with valuable insights on the other three points we were interested in:

2) Compatibility with the education institution infrastructure

Intel powered devices running Windows* 8 slot effortlessly into the IT infrastructure of most schools and colleges. For example, schools can deploy a domain join/group policy to allow devices to securely connect to their network – something that’s only available on Windows 8 with Intel today. Intel and Windows 8 also supports the full functionality of a whole range of equipment, like printers, scanners, cameras, etc, all of which are essential for helping to keep a school running smoothly.

And it’s not just hardware. Any existing software that schools use that run in the Windows 8 desktop are also fully supported by Intel and Windows 8. So things like transferring files using school-approved tools such as Microsoft Office*, is much easier, as the Intel and Windows 8 devices seamlessly integrate into the school network.

3) Security

IT security is an issue for any large institution, particularly one with multiple users, systems, software packages and devices. Get it wrong and the whole system can be compromised, leading to time - and resource-consuming measures to rectify the problem. Something busy headteachers and administrators could do without. Fortunately, security is a key feature of Intel and Windows 8. For example, not only does the domain join/group policy support allow for secure connection to school networks, but also the devices themselves are much more secure, with anti-virus and malware protection built in.

This high level of protection is essential. Because experience shows that you can’t be too careful when it comes to viruses - with some being present and installed at boot time. So, having worked closely with Microsoft, Intel developed Secure Boot technology, to ensure that devices are secure from the moment they are switched on.

4) Performance and responsiveness

Performance is another key consideration for headteachers and administrators – and Windows 8 devices running on Intel are well known for their high performance parameters. Importantly, this doesn’t come at the expense of energy efficiency. In fact, with the latest Intel® Core™ and Intel® Atom™ processors, we can see a full day’s battery life in high performing devices for the first time.
**Results**

Over the course of three months, many teachers contributed to the blog, familiarising themselves with the mobile computers they were given, trying out different apps in a classroom environment and sharing their findings.

The results show the clear benefit of Intel powered Windows* 8 devices to teachers, students and academic institutions. It also shows how quickly less confident teachers adopted the technology and used it in their classrooms.

**Key findings**

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<th>Percentage</th>
<th>Statement</th>
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<tr>
<td>85%</td>
<td>would recommend or highly recommend that all teachers within their school should have access to the device, Microsoft Office 365* and Windows 8 apps</td>
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<tr>
<td>92%</td>
<td>rated the touch function of their device as positively enhancing their experience in the classroom</td>
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<td>92%</td>
<td>said students found using the apps in the classroom positive or very positive</td>
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<tr>
<td>77%</td>
<td>would recommend or highly recommend that students within their school have access to Office 365 and Windows 8 apps</td>
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<tr>
<td>77%</td>
<td>would definitely continue to use the Windows 8 apps after this trial period</td>
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<tr>
<td>77%</td>
<td>rated video apps as effective or very effective in the classroom</td>
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**A selection of entries from the online diaries of some of our contributors:**

"This week the learners have been working on a project together where they are required to produce an information leaflet on a selection of gym equipment.

They met with each other at the start of the project and agreed on the areas that each of them would contribute with definitive timescales. They then decided that they would use Microsoft Word* as the platform for the leaflets.

They all shared ideas and researched their topics via Bing.com. Links to videos and images were inputted at the same time on the same document... This was an excellent example of how collaborative learning using technology can complete a piece of work whilst improving communication, teamwork, delegation and leadership skills."

Leon Annett – Coleg Gwent

"They (the apps) have made lessons fun and competitive. They have also helped with continuous practise and support of essential skills... Using apps has helped learners understand the value of having access to technology in a portable way and the ability to collaborate. Having a touch screen device has made it easier for the learners who are uncomfortable with where things are and how to find things as they can ‘play’ with the technology and get an intuitive feel for it."

Miss Sian Williams – Warminster Prep School

"Apps have brought a little independence into the children’s learning, bearing in mind my class are Year 2 (6-7 year olds). They have proved popular with myself and the children, as the children have a lot of fun, while working/playing in small groups, remaining focused for respectable periods of time... (The Times Table Tester) allowed the children to test themselves on their tables. Motivated them and made learning tables more of a competition."

Jennifer Howard (Rankine) – Warminster Prep School
So, what can headteachers take away from the trial?

Mobile computers play an important role alongside traditional teaching methods – but for maximum effectiveness and engagement, it’s vital that compatible mobile devices are made available to all teachers and students within the school.

A one to one approach is achievable, given the lower price point of this type of device, and the speed and ease with which teachers of all levels of IT experience adopt the technology – when given the opportunity.

And when this happens, this approach can support a more varied curriculum, as well as extend learning outside the classroom.

With Intel powered mobile devices, you can bring a world of new potential to your students, teachers and your educational institution:

• Take technology into account when considering how to provide improved teaching, management and accountability
• Extend learning beyond classrooms and textbooks, by giving pupils access to inspiring online lessons and valuable digital resources
• Provide teachers with professional tools that help them assess students and access data quickly and easily
• Help teachers develop the skills they need to enhance their teaching using digital technologies and new approaches
• Encourage all teachers to accept the importance of technology in learning
• Introduce an engaging ICT program that gives pupils the skills they need to take their studies further, and prepare them for today’s workplace

Conclusion

Find out for yourself how Intel Inside® touch-enabled computers can benefit you, your educational institution, teachers and learners.