Teachers, are you in touch with technology?

Intel trial: How teachers used Intel Inside® touch-enabled computers to help enhance their teaching techniques and engage learners.
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.

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

Introduction

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

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 teachers 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 peers 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 you 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

"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.

“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.†
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. 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.

Assessing using Windows® 8 - Click here to see video
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. 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.

4) Performance and responsiveness

Performance is another key consideration for teachers – 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

- **85%** would recommend or highly recommend that all teachers within their school should have access to the device, Microsoft Office 365* and Windows 8 apps
- **92%** rated the touch function of their device as positively enhancing their experience in the classroom
- **92%** said students found using the apps in the classroom positive or very positive
- **77%** would recommend or highly recommend that students within their school have access to Office 365 and Windows 8 apps
- **77%** would definitely continue to use the Windows 8 apps after this trial period
- **77%** rated video apps as effective or very effective in the classroom

What follows is a section of the online diary of one of our contributors – Leon Annett, an educator in the Further Education sector, employed by Coleg Gwent in South Wales.

Before beginning his blog, Leon explained, “My plans are to see how I can integrate the device into lessons where we are working collaboratively with learners.”

“The decision to use Moodle* was part of those plans. A learning management system popular around the world, Moodle focuses on giving educators the best tools to manage and promote learning.

It can be scaled up to accommodate hundreds of thousands of students, or scaled down for use in a local primary school, or by an education hobbyist.

In addition, many institutions use it as their platform to conduct fully online courses, while some use it simply to augment face-to-face courses.”

Charlotte Assomo – Highbury College
Dell XPS 12*

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Useful apps

Conclusion
App inspiration

The following are just some of the apps used by the teachers in the trial:

To help teachers teach:

Google Drive*
“This academic year I am using Google Drive as the storage for all lesson material and linking it through Moodle*. I have successfully been able to update this material on PowerPoint* and embed onto Moodle all through the one device.”

OneNote*
“I have grouped the learners into four groups and their task was to begin working on a business project as part of the Level 3 Diploma in Personal Training. The learners then all worked on individual laptops in their groups on the same project on the same OneNote. The feedback was very positive. Some learners were formulating ideas via audio recordings, some were pasting web clippings on market research whilst others were beginning to edit and put the document together.”

Exploring Movie Maker*
“This week the learners have been developing their video editing skills. Their task was to produce a video demonstration of a few physical fitness tests. The syllabus requires them to describe the protocol for a range of fitness tests so it seemed like a good opportunity to cover this whilst developing their ICT skills. The videos they produced were very impressive, particularly as this was the first time any of them had used the software before. They found the software very easy to use and said that it didn’t take long to edit the videos how they wanted them viewed. I am finding that the learners’ confidence in using IT is growing, and they are achieving more as the weeks progress.”

Microsoft Photo Story*
“As part of their Anatomy & Physiology module, learners have been uploading pictures of muscles and adding text and audio to serve as a revision tool. All learners were assigned between four and six muscles that they had to create a storyboard for. They were then all uploaded and shared on their Moodle homepage. I was very pleased with how they performed the task. They found the software easy to use and made some very good ideas for how it could be used later in their course. I have never really utilised story boards to their full potential in the past. By using Photo Story I could also think of a number of other uses that could be integrated into my teaching. And the best thing about it is that it’s free and takes just a couple of minutes to download.”

To help teachers manage:

Socrative*
“This online quiz is something I use quite a lot. I wanted to be able to design the quiz from the device, monitor the learners’ progress on the device and upload the results (which Socrative publishes on Excel*) on Moodle. Again, this worked extremely well and the results were available for the students within minutes.”

Video Demonstrations and Presentations
“This week I asked the students to produce a 3-5 minute presentation about themselves using PowerPoint*... I then recorded each presentation using the device, edited via Windows Movie Maker* and uploaded onto Moodle. I also gave each learner live feedback on their performance on this device... Editing of the recordings were seamless and I encountered zero problems along the way.”

Video Demonstrations and Presentations

“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 (Samsung 540U* with touch screen)
Collaboration using Office 365*
“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 input at the same time on the same document. Some learners were in a separate room but because they were signed in with their Windows accounts, they were able to message each other to ask questions or clarify any misunderstood points about the piece of work.
One learner was then responsible for conducting a final edit of layout, spell check and fonts before submitting onto Moodle* for grading. 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.”

Flash Quiz*
“This app is basically a digital flash card set. You can create a number of sets with as many questions as you want on them. It was used well and it was another good method to assess their learning at the end of the lesson. It could also be used as a plenary activity recapping on the previous lesson. Learners have also been creating their own flash card questions, which has increased their knowledge further.”

Assessing using Windows* 8
“I recorded the footage on a camcorder and uploaded onto OneNote*. I gave feedback as they were performing the routine. The learners then have the opportunity to review my feedback and then make their own evaluations against the criteria. A link to the OneNote page is on our Moodle site. I have allowed all learners access to each other’s portfolio as I am keen to share good practice between the learners - it will also give learners who didn’t perform that well an opportunity to view someone that did.”

To help teachers assess:

Skitch*
“Skitch allows you to annotate using your finger or stylus. The learners found this quite fun and it was a good method to assess prior learning. There is a paid-for version that will allow you to annotate on an uploaded picture, which would be better for certain subjects.”

Jennifer Howerd (Rankine) – Warminster Prep School
(Samsung 540U* with touch screen)
Conclusion

So, what can teachers 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
• 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
• Help pupils develop the skills they need to take their studies further, and prepare them for today’s workplace

So Intel powered mobile devices can bring a world of new potential to teachers and students alike.