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Editor's letter

The end of another academic year, the prospect of a refreshing holiday and time to reflect on the ups and downs of school life over the past 12 months. There is no doubt that teachers' commitment to work and their students is second to none across the professions, and there is also no doubt that teachers must manage not only day-to-day teaching and learning, but also change on a scale that rivals that of the smartest businesses.

For educators involved in ICT, the year has been hectic and, I hope, fulfilling. In the void left by the demise of Becta and a reduction in local authority education services, many schools and teachers have grasped the potential of ICT and increased their investment in technology to add a new dimension to teaching and learning, and improve school management.

Many schools are also addressing the change sparked by Education Secretary Michael Gove's January decision to hand over responsibility for developing computer science courses to the teachers that will teach them. The presence of generic ICT in the classroom and a separate discipline of ICT or computer science classes is taking shape and should resolve the issue of students needing ICT skills, but not all wanting to be programmers.

Whatever the route of the learners,

ICT resources remain stretched, but through collaboration, knowledge sharing and building relationships with education suppliers, schools are forging their own paths and demonstrating truly creative use of ICT.

This year, some of those schools have shared their expertise and experience in the pages of this magazine and at *ICT for Education* conferences across the country

As the next academic year gets underway, I hope more will join the *ICT for Education* national conference programme to showcase their work and share their skills with colleagues. The next *ICT for Education* conference is in Newcastle on 21 September and further events follow in Manchester, Coventry and Swansea.

While you are on holiday, we will be working on a new *ICT for Education* website that will give you easy access to conference information as well as news, features, product reviews and more. Have a great holiday and I look forward to catching up with you again in September.

Best Regard

Sarah Underwood Editor

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A prescription for tablet computing

Forecasts suggest tablet technology will advance faster than any previous technology in the education sector, but the need remains to choose and manage devices carefully

Nik Tuson

Over recent years, tablet computers have launched and relaunched with limited adoption. The turning point for the tablet computing product category came in April 2010 with the introduction of the Apple iPad built on the iOS mobile operating system. The following year, the first generation of tablet computers produced by industry leading hardware manufacturers, including Samsung, Motorola, Lenovo, Toshiba, Acer and Asus, came to market to compete with the iPad. These devices use Google's mobile operating system, Android.

Several other tablet devices have since reached the market based on proprietary operating systems and including Research In Motion's BlackBerry Playbook and HP's TouchPad. Tablet devices that run Microsoft's Windows 7 operating system have struggled to gain market share against the iPad and Android tablets, but the introduction of Windows 8 later this year is expected to result in a renewed interest in these products.

With tablet options opening up, schools need to assess if and where tablet computers could fit into their work. To make the decision, the first step in is to have a clear and fundamental understanding of the needs of your school. Fully understanding how tablet computers could be used in an educational institution is essential and there are many issues to consider before diving in.

One of the key advantages of tablet computers is the additional



engagement that touch interaction with content brings. Tablet technology offers a change to the traditional use of ICT equipment, such as fixed computers or laptops. Tablets are lightweight with a long battery life and offer possibilities not previously seen with other mobile computing solutions. They can be used, for example, on field trips, in workshops or in physical education lessons, delivering opportunities for research, evidence gathering and

presentation. Schools considering investing in tablet computers should review the areas where they could be used most effectively.

■ Integration

Schools have made significant investments over the years in a broad range of ICT provision. This leads to a number of important questions about tablets, including: will they support our current e-learning content and activities; can we access existing

network resources; will they work with our other ICT devices; and how will we control individual user access?

Deploying any number of devices will raise another range of questions, including: how will we secure the devices and maintain their integrity; how will we manage and monitor these devices remotely; how will we deploy new content and applications to the tablets; and how will we provide access to students' existing work?

Deploying a large number of tablet devices is no different to deploying computers and laptops, a system is required to manage, maintain and control them. Without such a solution, tablet devices could create an even bigger burden on ICT provision in schools than existing resources.

Despite having a lower price point than laptops, tablet devices are still relatively expensive. As with any investment the total cost of ownership must always be calculated before purchase. For example, what happens when these devices break or are damaged, and is only proprietary content usable? When we bring in these additional costs, especially the potential of having to buy new learning content, the costs can start to escalate.

It is fair to say that the majority of tablets have been designed for consumer-based applications and have close integration with social networking applications. The legal age limit for accessing Facebook is 13 years and schools must consider how they will monitor and control use of the website. There are a number of key legal implications including access to content which must be thoroughly researched before any deployment is considered.

The fact that typical deployment of tablets in schools is not yet one tablet for one student presents another consideration. Inevitably each device will be shared, as will its content, applications and resources. Finding a way to allow multiple students to access individualised content on shared devices has to be

There is a range of different tablet-based devices available and each device has benefits and limitations. The need to understand each device, its key features, advantages and limitations, and its use within the school environment

addressed.

Equally social networking, such as Facebook, present challenges that must be addressed. As with any ICT device, schools must consider how they will monitor and control use of social media websites and tackle legal implications including access to content.

■ Deploying and managing

Once devices have been purchased, deployment, monitoring and management requires careful planning. A couple of key considerations are mobile connectivity and content and applications management.

With the portability of tablet devices, there is an increased need for mobile connectivity. Providing wireless connectivity for a greater number of portable devices across a wide geographical area, when most school's wireless networks are redesigned to support a small

number of devices, is an issue that must be tackled. Added to this is the question of how much bandwidth will be needed to support mobile access to media rich internet websites and content. Can the fixed network structure support this or should on-device content deployments be considered to reduce the impact on the network infrastructure?

Schools' duty of care raises other issues ranging from content filtering and anti-virus software, to restricted desktop access and student profiling. Like other devices, mobile tablets need to be managed to meet the duty of care.

In terms of content and application management, tablet devices and app stores introduce a new method of sourcing and delivering applications and content. These stores have been designed for the consumer market and as such do not allow schools to use traditional methods of purchasing and licensing. Teachers must also consider whether the content is aligned to the teaching curriculum. Without specific content and application management and deployment solutions, delivering new content to multiple devices can be problematic and time consuming. Ensuring that devices can be updated and new content deployed en-mass requires critical reflection.

■ Considering the options

There is a range of different tablet-based devices available and each device has benefits and limitations. Understanding each device, its key features, advantages and limitations, and how it can be used within the school environment, will assist a school with its choice of tablet computer deployments.

The Apple iPad has created massive demand for tablet computing and has seen early adoption by schools, due mainly to the intuitive interface and the range of applications. Advantages include its high quality, ease of use, a large range of applications, a reliable operating system and good battery



life and performance. Its limitations are that it is proprietary, single source hardware with a lack of support for existing content, connectivity and network resources. Limited configurability means it is difficult to secure, costly to manage and there can be problems providing content across multiple devices.

■ **Android tablets**

Android tablets based on Google's open source operating system are produced by many top manufacturers including Samsung, Motorola, Lenovo, Toshiba, Acer and Asus. They have released high-quality tablet computers running the Android operating system. The advantages are that there are multiple hardware manufacturers with varied price points. They support Adobe Flash content and external USB devices. There is also a greater level of support for network resource and connectivity. The flexible operating system allows customisation and easier management and control. The main limitations are that proprietary content is more limited and market applications are not curated.

LearnPad is a device that has been designed specifically for schools and provides a safe and secure way for students to access existing e-learning content, school network resources as well as Android apps. LearnPad comes pre-installed with a range of educational applications and content. Central

management and control are a fundamental aspect of design as is content management and application deployment. The advantages include support for existing e-learning resources, a secure, customisable student interface, a child safe web browser and a curriculum aligned activity store. Teachers can create custom content profiles

Windows tablets do not offer the same level of touch interaction that is achievable on other tablet devices, which has lead to poor adoption. However, with Windows 8 due in late 2012, Microsoft hopes to provide a more compelling tablet device

for individualised or topic based learning and these can be deployed remotely to multiple devices. Its main limitation is a smaller range of available apps.

Windows tablets do not offer the same level of touch interaction that is achievable on other tablet devices, which has led to poor adoption. However, with Windows 8 due in late 2012, Microsoft hopes to provide a more compelling tablet device that may offer schools better integration into network environments. The advantages are their closer integration with existing network infrastructure and greater support for existing content. There are multiple hardware vendors with good external device support. The main limitations are that Windows tablets are more expensive than other solutions, with a more system intensive operating system. Many existing applications are not suited to the tablet format or may not run on specific hardware.

■ **Looking to the future**

Forecasts suggest tablet technology will evolve far faster than with any previous technology we have seen in the education sector. New applications, new hardware, lower costs and ultimately new uses of this highly adaptive and intuitive technology will continue to appear over coming years. Change will come rapidly and with it we may well be able to finally realise the one device per child scenario, bridging the digital divide forever.

Nik Tuson is managing director of Avantis



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The power of communication

School to parent communication is developing quickly and becoming essential to safeguarding as well as to more general distribution of information covering issues such as school policies, parent meetings and extra-curricular activities

Geoff Jones

Unfortunately, news about safety issues in and around schools continues to appear. Most recently, thousands of parents in Kingston, Surrey, were put on alert after three reports of attempted child abduction outside schools in the space of a week. On Monday, just after 9am, a would-be kidnapper allegedly grabbed a young boy as he walked alone to Knollmead Primary School in Tolworth, but he struggled free. Later that day, another incident was recorded outside a school close by in Worcester Park. These incidents followed reports of a man and woman allegedly approaching a girl while she was getting water from a fountain at Grand Avenue Primary School in Kingston, but she ran away.

Parents at schools across the area received text messages from headteachers, alerting them to be vigilant. Other schools used Facebook pages to spread the word. One parent said: 'I got a text message from the school warning me to be vigilant. It said we should be careful because of an incident.'

This is, perhaps, an extreme example of a safety issue in schools and thankfully it doesn't happen too often. However, these kinds of emergencies are when communications systems really can



come in useful. A few weeks ago, the ParentMail team received a call from the police, which puts the importance of this sort of information in context. A school in the area had used text messages and emails to alert parents to a white van that had been prowling the area. The police asked us to search our database to see if we could find other schools in the area that had sent out similar messages, and we could. This

helped the police gain a wider understanding of the incident.

■ Planning

Life's best laid plans can go astray, so it is wise for schools to plan for the unexpected. Thanks to the efforts of staff and governors, schools remain a safe haven for children, but they can become involved in an emergency at any time. It is advisable that

schools take time to ensure they have effective communications systems in place to help manage these situations if and when they arise.

In recent years, electronic communication has found its feet in the education sector as a key method of communication with parents, helping to keep them informed and involved. With the growing influence and presence of technology in all aspects of life, it has been a logical move for schools to tap into this. Email and text systems support the ability to keep information up to date, communicate more frequently and make sure that messages are received quickly. Smartphone apps have the potential to take this a step further, allowing parents to keep up to date with information and announcements, tap in at their own convenience and be more directly involved than has previously been possible.

In the case of an emergency, some schools have operated a pyramid telephone system, where people are assigned groups to call and the message is passed on through word of mouth. This is an easy and relatively cheap solution, however it is probably one of the most unreliable methods of communication. Parents might miss the call so can't pass the message on, they may not have voicemail or they do not listen to the message in time. Like a game of Chinese whispers, messages might also get altered, resulting in inaccurate information being relayed to people and causing unnecessary panic.

A suspected case of bird flu, for instance, could escalate into bird flu being all around the whole school. Also, with no system in place to trace or track calls, there is no record as to whether certain parents have been reached or not.

Another communication option that has proven popular with schools, particularly during bad weather, is local radio. Schools can distribute urgent messages much more quickly than over the phone. However, this relies on parents listening to the relevant radio station at the time of

the broadcast.

Social media is a way of communicating with parents and can be effective in terms of the speed of getting messages out. It can also be recorded as replies and followers can be tracked. One implication of using social media as a communication tool is that it relies on parents being registered on Facebook or Twitter and many may

Whatever the scenario, effective communication is essential and even expected in this age of technological development. If we are to safeguard our children, we need to ensure the right systems are in place throughout the school

not be, they also need to be online at the time of the emergency in order to see the post. Social media also communicates messages to the wider world, not just parents, and could panic people unnecessarily, or cause unwanted attention for a school. For example, local press reporters who are Twitter followers could publish a story about the suspected bird flu case at school when it has not even been confirmed.

The introduction of electronic methods of communication have

a by-product for schools in terms of helping to improve safety and the ability to communicate with parents quickly if required in an urgent situation. Text and email communication channels work well because parents are quickly sent information in a way that is easy for them to receive. Web-based communication systems also work well for a number of reasons, one being that more than one parent or carer can register, meaning both receive school messages. Both mums and dads can have an account that is accessible from a computer or smart phone. This increases the chances of a quick response or acknowledgement of the message, because both parents will be alerted and can then make the decision about who is best placed to act, perhaps picking a child up from school due to a flood.

Simply put, sending emails and text messages helps cover all bases. During severe, widespread bad weather, for example, mobile networks can become overwhelmed as vast numbers of people try to communicate to one another. The school can use the computer to send messages quickly and easily from a central system.

Whatever the scenario, effective communication is essential and even expected in this age of technological development. If we are to safeguard our children, we need to ensure the right systems are in place throughout the school and that institutions are not using outdated methods of sharing information with parents. There are no hard or fast rules about which communication channels to choose in an emergency. However, it is important to consider those that are the most reliable. If you want to use radio alongside text and email messaging then by all means go ahead, but ensure your messaging is concise and consistent. Emergencies often mean a time of panic, so having the right channels set up before an emergency occurs could be your saving grace.

Geoff Jones is director of ParentMail

An inspector calls...

Laura Peryer

Every school awaits signs of an Ofsted visit. The phone call from the chief inspector sets the wheels in motion and the whole school roars into action. Even in deepest Devon many schools have been visited. Recently, my school was one of them. The call came on a Monday morning with the visit scheduled for Wednesday and Thursday. From that moment, all guns were blazing as every single member of staff from teachers to technicians and cleaners worked solidly, some throughout the night, to ensure that everything was perfect and would wow the inspectors. Everything needed that extra bit of sparkle.

■ Opportunity

While an Ofsted inspection can create a manic atmosphere, it is a fantastic opportunity for schools to show off and advertise the fabulous array of achievements and opportunities they provide for students both academically and inspirationally. A real opportunity to shine.

Being in my first year of teaching as an NQT, my experience of the Ofsted inspection was both nerve wracking and exciting. My school prides itself on its high expectations,



high quality teaching and provision of a fantastic learning environment for its students, so making sure that we portrayed all these things was crucial during the inspection. Inspectors often look for certain things on their visits, often centred around teaching and learning. The key areas on everyone's lips at the moment are progress, to show clear evidence of a student's progression throughout a lesson and over time, and active learning, to evidence how we engage our students through fun yet challenging activities.

I always aim to make my lessons engaging and interesting for students, so it was a case of tweaking them to incorporate key active learning elements. Teaching ICT provides an

amazing amount of opportunities for creativity and skills progression, but it is just as important to develop good relationships with classes so that they get the best out of their learning.

■ Feedback

It was very interesting having an inspector observing a lesson as not only are you representing yourself and your skills as a teacher, but you are also representing your department and ultimately your school. Thankfully it was not as scary as I imagined and I was provided with some good feedback.

As a school we were pleased with our results and the inspection showed what can be achieved if you work as a team. Everyone pulled together and created some amazing things that continue to be embedded and upheld across all departments. There is no denying that an inspection is stressful, but it's good to know we are always striving for high quality teaching to support younger generations.

Laura Peryer is a newly qualified ICT teacher at Hele's School in Plympton, Devon

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