

Read illustrations of the policies and management strategies which make mobile learning successful.

### Introduction

Mr. Grant is an award-winning high school science teacher. As well as being an incredibly passionate teacher, he is also in charge (along with the school principal and IT network manager) of the school's Technology Integration Strategy, in which mobile learning has a very high priority. His groundbreaking work within the school has also attracted the interest of the school district, and as a result he also sits on the district's "Learning with Technology Future Implementations Group." Luckily, he works in a district that is at last listening to talented teachers and what they believe the priorities are to prepare young people for 21st century learning and employability.

This scenario takes you through an especially full day for Mr. Grant, which is a combination of meetings at the school and district level, supporting other staff, and teaching his own classes. As we follow his day, we are able to pick up on some of the key decisions that Mr. Grant and the school have made to embed mobile learning in their school community's approach to education.

- **KEY LEARNING POINTS**

The key learning points for others to learn from and follow are identified throughout the text.

### Before School: Good Communication

Among other things, one of Mr. Grant's jobs is to oversee the school Web site and other methods of digital communication with the outside world, including parents and the local community. He has set up a small social media committee of senior students who do most of this work for him. But each morning before school, he likes to do a sweep of the school Web site, blog, Facebook\* page, Twitter\* account, and YouTube\* channel just to keep an eye on things and to make sure that there are no comments or requests that require his attention. He also has Google Alerts\* set up on key search terms (such as the name of his school) so he can keep a close eye on how people are expressing themselves digitally about the school.

Communication from Mr. Grant's school is now almost 100% digital, and there has been a big push throughout the school over the past 12 months to reduce the amount of paper going home and—as a consequence—the amount of key messages being lost in students' school bags. As well as being better for the environment, Mr. Grant and his principal, Mr. Stewart, believe that actions such as this send a very clear message to parents and the wider community that "going digital" is important.

Indeed, the school's digital communication strategy has been fundamental in bringing parents onboard and keeping them up to date on the school's digital and mobile learning strategy. Without a clear strategy, Mr. Grant is convinced that they wouldn't have made as much progress as they have in such a small amount of time. The key, he thinks, is not just telling parents what they plan to do, but also explaining why they think it is important and showing what a policy or strategy looks like once it has been put into practice.

"For technology integration to be truly successful, you need to take parents with you every step of the way," is a phrase that Mr. Grant often uses when speaking at conferences about his school and the work they have done. As well as being a teacher, Mr. Grant sees himself as being an adviser to the school principal and a "Learning-with-Technology" coach to other teaching staff, who are acquiring more confidence.

- **KEY LEARNING POINTS**

Good communication with all stakeholders is the key to any successful mobile integration strategy. Parents and members of the wider school community need to be well-informed of the school's plans and developmental priorities

### Period 1: School Technology Integration Meeting

Mr. Grant and Principal Stewart meet to discuss the next stages of the school's mobile technology integration strategy. The last year has been a good year: they have developed Acceptable Use Policies (AUPs) for students; integrated mobile and digital learning into the school's learning and teaching policy; run high-level theoretical workshops for staff on what is possible, as well as practical hands-on workshops to help staff gain confidence with a variety of different types of technology; invested heavily in hardware and devices; given permission for students to use their own devices in some classes; and developed a robust communication strategy for parents, as well as improving the school's digital information portals (such as its Web site).

Although it is good to reflect on the successes of the last year, both Mr. Grant and Mr. Stewart realize they must continue to move the school forward if they are going to truly embed mobile learning into the fabric of the school. They are both keen to create a 1:1 learning environment, which is part of why they allow students to bring their own devices into school. They see the future as a blended model where the school provides a number of core devices (including specialist devices), students and families can purchase laptop or tablet computers through a leasing scheme that will be set up by the school (or a third party), and students can connect other companion devices that they already own (such as smartphones) to the school's wireless network.

As well as maintaining good communication with key stakeholders, getting permission from the school district, and devising the device strategy mentioned above, Mr. Grant and Mr. Stewart see three other things as being fundamental to the success of their plans. The first is that the school needs a stable, Web-based learning platform and suite of online tools, so that regardless of the devices students use they can access the learning resources they need. The second is continued professional development for staff, and the third is improved bandwidth.

Despite having a reliable and robust wireless network, the amount of bandwidth coming into the school is a real concern for Mr. Grant. He has calculated that at the moment there are about 500 devices connected to the school's network at any time. But this could double or even triple if they allow students to all have their own 1:1 and companion device access.

Mr. Stewart agrees to approach the school district to request additional funding to upgrade their network. He is all too aware of other schools from around the world who have rushed into mobile learning strategies by flooding classrooms full of equipment without first planning for how this equipment would affect existing resources. Ensuring good, fast connectivity is the key for now and will create a structure that can be built on for the future.

- **KEY LEARNING POINTS**

Strategies for mobile and digital learning need to be integrated into a variety of school-wide policies (including the school's learning and teaching policy). Good mobile learning in the modern age relies on good connectivity (particularly if you want to develop systems of 1:1 computing). The importance of a fast, reliable, and resilient connectivity cannot be overstated.

## Period 2: Class Rules - Team Teaching

Leaving his meeting with the school principal feeling very enthused, Mr. Grant heads off to a history class. Having seen the success in other areas of the school, the history department is now keen to introduce more mobile-learning strategies. Just like he was for other areas of the school, Principal Stewart has been very supportive of this. He has provided the department with two trolleys of Intel® Classmate PCs and has allocated some of Mr. Grant's time to the department to act as a mobile-learning mentor.

Today is the first time that Mr. Grant has worked with the department, and the first thing that he wants to help them develop is a set of guidance rules for the safe, appropriate use of mobile technology in their classrooms. Mr. Grant explains to the department that, even though the school has some generic guidance, it is important for each department (and, indeed, each class teacher) to develop their own guidance and boundaries with each individual class. Mr. Grant explains that this is no different than what teachers have done for a long time, although the introduction of mobile technology provides a modern twist.

Mr. Grant also stresses that it is very important for students to co-create the guidance. This way, not only will they feel more ownership, but it will also create a greater culture of trust and respect between the students and the history department staff.

The exercise starts by Mr. Grant asking the class how they might be able to use the Classmate PCs to support their learning in history. Then he asks how they might use their cell phones as companion devices to support their learning in history. Finally, he asks which of the Web-based resources that they cannot access at the moment (due to school web filtering) might support their learning in history if the school were to unblock them.

From the list of ideas that the students generate, Mr. Grant asks the class to draw up an Acceptable Use Charter (AUC) that they must adhere to if they are going to be allowed to use the Classmate PCs and their own cell phones in class. He also asks for volunteers to become part of a short-life working group that will look at unblocking some of the Web sites that the class has said might help them with their learning.

Before leaving to go to his next class, Mr. Grant asks the head of the history department if it would be possible to have a follow-up meeting to review how he went about trying to generate the set of class rules and procedures.

### ■ KEY LEARNING POINTS

Students must see and feel ownership of any Acceptable Use Charter (AUC) if it is going to be successful and have the desired result within the school. This approach is more likely to have a positive impact on responsible use than a forced Acceptable Use Policy, which should become a thing of the past.

When working with students, it is important to explore why some Web sites may be blocked in schools. For example, is it because of age-relevant content, inappropriate advertising, or due to bandwidth issues? It is also very important to work with the IT network managers to help them understand the needs of the digital learning community, so that educators can start to understand some of the strict parameters network managers have to work within.

## Period 3: Laptops in Class

It's a long way from the history department to the science department, and as a result Mr. Grant gets to his science class slightly late. However, because the focus of today's lesson is consolidating learning in the form of a lab report, he

has very little to worry about. Unlike his colleagues' classes in the history department, when students arrive at Mr. Grant's class they understand what is required of them and what the expectations are.

The students in this class already have one Classmate PC apiece from the charging trolley, and most also have their cell phones on their desks. Indeed, the class barely even acknowledges Mr. Grant as he arrives in class, and, of course, why should they? They know what they are doing because they have accessed the objectives for today's lesson from the school's virtual learning environment, which uses Microsoft Office 365 for Education\*. Mr. Grant sends out meeting requests to his students before each lesson, so they know what they will be learning about and will have links to any pre-class reading or resources. He does the same for home learning activities.

After greeting the class and thanking them for being so mature in their approach to learning, Mr. Grant checks to see what the students are up to. Rather than disrupt the learning that is going on, he chooses instead to access each of the Classmate PCs using his teacher PC and the Mythware\* software that comes standard. Among other functions, it allows him to see the screens of up to 60 Classmate PCs at a time. A quick check through the screens of the 22 students in his class confirms his gut reaction that everyone is on task. Mr. Grant is not sure if this is because the students know he has the software running, because the class co-created his classroom Acceptable Use Charter for mobile learning, or because he sends out a clear message of trust and responsibility; but he has had no real problems with students being distracted from learning (and the Internet can be very distracting) since they have started using the Classmate PCs.

As Mr. Grant does his second sweep of the student screens from his desk, he notices that three students are lagging a little bit behind the others. Again using Mythware, he quickly pulls together five consolidation questions and asks for the class's attention before sending the questions out to each student PC. Mr. Grant knows that this type of question does not promote deep learning, but he wants a snapshot of student understanding. From the results that are self-marked, he realizes that about five students have not quite got the key concept of the experiment they are writing the lab report about. Rather than single them out he pings each of them a YouTube\* clip of the key learning points and announces to the class that he will go over the key learning points for yesterday's experiment for anyone who might be interested. He is delighted when ten students are keen to do this, and that four of them are the ones who seem to be struggling.

At the end of his class, one student asks if he can borrow a Classmate PC for the weekend (this is a pilot project that the school is currently running). Mr. Grant knows that this student doesn't have a PC at home, so he agrees. He asks the student to sign the Home PC Learning Agreement and for it to be co-signed by one of his parents. As long as this is done by tomorrow, then the Classmate is his for the weekend. The school district has become a lot more relaxed about school equipment being used at home, because each of the Classmate devices is built with Classroom Management software as standard. This software allows good protocols and relieves the stress when it comes to access management. Among other things, it means that although the Classmate may be used at home or in a cyber café, the school remains the centralized organization, and the management for the Classmate uses its servers, allowing the school to filter access to the web regardless of where the device is used. Although Mr. Grant's school has fairly relaxed filtering rules (compared to some), this software leaves him with the peace of mind that students can only access the same Web content at home that they can access in school.

- **KEY LEARNING POINTS**

It is important that the school has systems in place to provide students with mobile learning

opportunities when they do not have their own access to devices. Where appropriate, software can be used for management and support on school-owned devices, but it is important that the software is not bloated and does not inhibit learning.

During the development of any AUC, students should be aware that the school is using software that is designed to support their learning by providing remote assistance, and that they understand that their usage can be viewed by the teacher. By making this clear, you will create a culture in which the systems put in place will not inhibit the use of the Internet, but, rather, will provide a tool that can be used for the educational purposes it was intended for while mitigating opportunities for misuse.

#### Period 4: Mobile Phones as Companion Devices

Next Mr. Grant heads next door to speak to the physics teacher. Although the science department has taken huge steps forward in the promotion of mobile learning, not everyone in the science department is as keen on using cell phones to promote learning. One of Mr. Grant's roles as a learning coach is to work with his colleagues to enhance their skills and confidence in taking advantage of the opportunities that mobile learning provides.

Mr. Grant starts with a story from his last class:

"When I walked in they all had their phones on their desks, but the phones were face down. This is one of the learning procedures that we have put in place to ensure responsible use of cell phones in class."

"You see, some teachers believe that by ignoring the technology then the problem will go away. I think differently; by openly asking for phones to go on the desk not only am I acknowledging the technology, but then it also becomes easier for me to monitor. If a cell phone vibrates or rings, I am more likely to hear it and I can reinforce the rules that we have jointly agreed on."

"Our jointly agreed procedure is that phones are on show. They are face down on the desks unless they are being used for learning. If I'm leading the lesson, then phones are in airplane mode. If students are self-directed in their learning, then phones can be on silent. If a phone goes off, everyone's phone stays on the desk in front of them, but students move one place to the right—this means that you have to use someone else's phone or go without. In practice this sanction means that everyone has their phone on silent or in airplane mode."

This basic guidance seems to put the teacher at ease, and Mr. Grant follows up with a reminder of Principal Stewart's philosophy when it comes to the use of cell phones in school, which states:

- Behavior rules remain the same.
- You can only use the cell phones when asked to by a teacher.
- If a cell phone is being used inappropriately (e.g., to play games, message others, use social networking sites when asked not to) then a warning, followed by a detention and confiscation of the device will occur.

- If you do not know how to do something you have been asked to do (e.g., use Bluetooth), you have five minutes to see if someone else in the class or the Internet can help. If not, you need to share a cell phone with someone else.
- Theft of cell phones will be dealt with in the same way any other theft is in school, with the same sanctions.
- Bullying will be dealt with in the same way all other bullying in school is, with the same sanctions.

A good discussion follows about how cell phones could be used in class, and, as always, Mr. Grant advises the teacher on a really good way to start his approach (repeating the same advice he has already given to the history department): ask the class how their cell phones might help them learn (e.g., filming experiments, use of apps, e-mail, calendar, etc.), and then get them to draw up the guidance for their use in class for you. The best classroom rules are co-created.

- **KEY LEARNING POINTS**

As students are getting used to using mobile technology, it is important to establish a positive routine. By getting students to place cell phones on the desk, the technology is brought out into the open and makes it easier to manage (compared to being in a coat or school bag). This strategy also emphasizes that the technology is going to be used for learning. The teachers should develop further co-created guidance and a mobile learning routine with their classes. This not only helps the students become more settled as they start to experience a new pedagogy, but it also allows the teacher to grow in confidence and develop new teaching methodologies.

### Lunch: Online Marking

Over lunch Mr. Grant logs onto the school's Microsoft Office 365 Account and is delighted to see that a lot of his students have uploaded their assignment to Sharepoint Online\*.

Mr. Grant has never been protective over platforms and believes that students should be able to use a range of devices to access learning materials and tools to help learning. However, he has found out with experience that it is useful to have a single sign-on for both students and teachers to a range of tools and services. He has also learned that when developing a virtual learning environment for a school, it should be as open as possible and not just for students and teachers.

- **KEY LEARNING POINTS**

Digital environments and hardware will change over time, depending on budgets and new trends. It is important that systems remain agile. Increasing browser speed and access to cloud-based tools and services will unify the learning experience. Single sign-on to a variety of tools and services can also improve usability and access to learning tools and content.

### Period 5: Backchanneling

Mr. Grant has been looking forward to Period Five, when he is going to try backchanneling with his biology class as they watch a live broadcast through Skype\*. Backchanneling is a form of digital conversation that occurs in parallel to the main class activity; it is great for certain types of learning situations, for example, watching a DVD or listening to a speaker. Mr. Grant first got the idea after he attended a technology conference and there was a Twitter\* #tag (hashtag) for the event. He remembered thinking at the time that the backchannel conversation was almost as interesting at the conference speaker.

After his class arrives, the first thing that Mr. Grant has to do is explain what backchanneling is. Luckily most of the class is familiar with Twitter, and they have an idea of how conversations can be grouped together by a #tag or theme. Indeed, a number say that they regularly use #tags when watching sports such as football, basketball, and baseball.

Mr. Grant decides to use Today's Meet\* as his back channeling tool of choice and asks the students to keep a backchannel as they watch a live dissection of a gannet (a large seabird) through Microsoft Office 365 Lync Video Conference\*. The reason that Mr. Grant decides to use Today's Meet is that it means that students will not have to use their personal social media accounts to participate in the backchannel or set up pseudo accounts for the purposes of the class.

Before the live broadcast starts, Mr. Grant takes the opportunity to remind the class of the school's Social Media Acceptable Use Policy and says that their web etiquette when backchanneling should adhere to this policy as much as possible.

### Student Responsibilities

- Only use your first name or the first name of other students you are talking about in a post.
- Always ask the people in a photo for their permission before you put it into a post.
- Use appropriate language. Try to show off your best work/writing when posting and use the tips people suggest to you to improve.
- Always think before you post (if in doubt leave it out!) Try to post about things that your audience will be interested in reading.
- If you receive a comment; it is polite to respond, say thank you, and reply to a question if they have left one.
- Engage in the conversation by commenting on other people's posts, too. Social media is about dialogue, and that includes commenting as well as posting!
- Respect other people's ideas and opinions. It is okay to disagree; it is not okay to be disagreeable.
- If you see anything that shouldn't be on your screen, tell your teacher or parents immediately.
- You must keep your password to yourself and not use anyone else's username or password.

### Additional Student Responsibilities

- Never give out your address or phone number or any personal details. Try to use social media safely and responsibly.
- Never identify yourself or another student shown in a photo.
- Never give out your login details to anyone.
- Don't be rude or horrible about anyone or anyone's work.

As he expects, Mr. Grant's class take to backchanneling like ducks to water, and as he dismisses the class, he promises to email them all a PDF of the backchannel conversation. He also reminds them that they will use the backchannel transcript to re-cap the dissection and to revisit the main points of learning when he sees them for their next lesson later in the week.

- **KEY LEARNING POINTS**

Mobile learning and the use of digital technology will not make teaching easier, but it will make teaching different. Think about how mobile and ubiquitous access could transform the learning experience and develop assessment practices. Do not create lots of sets of rules and procedures for different tools and services. Instead, create one set of simple guidelines that can be applied in a variety of contexts. For example, any guidance that has been written for safe and responsible blogging is equally applicable to tweeting with Twitter\* or posting on Facebook\*.

## Period 6: School district Strategy Meeting

Two members of the school district join Mr. Grant in his office for the last period of the day, and over coffee he has an opportunity to share with them some of the things he has learned in the last year about mobile learning as well as some of the school's plans for Bring Your Own Device (BYOD).

Mr. Grant starts off by explaining that one of the biggest mistakes that schools make is to assume that if social and portable media are banned in a school, then the students will not use them. All evidence from a variety of places demonstrates that they will! Schools and teachers should remember that social and portable media are easier to monitor when they are not hidden (for example, if cell phones are on the top of the table, like a book, rather than in a jacket or under a table on someone's lap). He also makes the point that schools should not assume that just because students are heavy users of social and portable media, they know how to use them in a responsible way. Like everything, students need to be taught and have good behavior modeled. Finally, he emphasizes the importance of good leadership and good parental engagement (mentioning that he has a session that evening with parents).

Next the conversation turns to Bring Your Own Device (BYOD). Mr. Grant makes a number of things clear about his own philosophy when it comes to BYOD. First, any equipment that is brought into school is done at the student's own risk. However, if BYOD is being encouraged, then the school will provide a lockable area, (e.g., lockers or a locked classroom) at lunchtimes, to store their property safely. The school will also always offer to provide a small amount of equipment for those who do not own or are not able/allowed to bring their own equipment into school (he uses his experience of the Ultrabook™ loan from earlier in the day as an example.)

Second, Mr. Grant believes that schools should encourage different types of equipment. He explains that the reasons for this are twofold; first, it helps to limit bullying about who has the latest phone, and, second, it encourages students to think critically and select the best tool for the job.

Finally, Mr. Grant makes a comment about why he believes that BYOD will work in his school and be implemented quickly when other schools in the district are struggling. "It's simple," he says, "What do learners want when they connect to a school network? It is fast connectivity. They are not interested in accessing a local network, or the shared file store in school, or a corporate email service or the district's exchange server. For a student, and most teachers, all of their content and the resources they need to do their job are online. Our plan, and it will work, is to save money and time by not adding extra layers of complexity such as Mobile Device Management software and Virtual Private Networks (VPN). All we need our student to be able to do is access the Internet, and the only controls that we will put in place are the standard filtering solution that we currently deploy in school."



The school district staff seem impressed by how well thought out Mr. Grant's argument is. It is useful for them to talk to teachers about what their real needs are rather than assume "fictitious" needs where they are often not really relevant.

- **KEY LEARNING POINTS**

- Don't make assumptions about young people and technology. Any BYOD strategy needs to be well-thought through.

Where possible, try to avoid putting in extra layers of complexity, such as mobile device managers, particularly when the school or the district does not own the device.

Teachers must talk to IT technicians and network managers to help them understand the parameters they work within and the services they are required to deliver. IT technicians and network managers must talk to teachers to help them understand the parameters they work within and the services they are required to deliver.

### After School: Parent Engagement Event

That evening, Mr. Grant and Principal Stewart lead a session for parents on how they believe the school's BYOD strategy will work next year. They also take the opportunity to talk to parents about Internet safety and responsible use and to show them the range of learning resources that are available to their children on the school's Microsoft Office 365\* platform

- **KEY LEARNING POINTS**

- Good communication, particularly with parents, is an important component of any mobile learning and technology deployment strategy.

### Tools Mentioned During This Scenario

Microsoft Office 365 for Education\*

<http://office.microsoft.com/en-us/academic/>

*A suite of communication and productivity apps and tools*

Mythware\*

<http://www.mythware.com/>

*Classroom management software*

Today's Meet\*

<http://todaysmeet.com>

*An online application that supports backchannel conversations*