

Tablets and Apps in Your School

Best practice for
implementation

By Diana Bannister, MBE
and Shaun Wilden

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Authors: Diana Bannister, Shaun Wilden

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Contents

About the Authors	4
Introduction	5
Why do schools implement tablets?	5

Section 1: Key decisions for school leaders	7
Is my school ready for tablets?	7
Who will lead the implementation of tablets?	7
Partnering with other schools	7
Creating student leaders	8
Does my school have the technical infrastructure to support tablets?	8
Student portfolios and data	8
Support	9
What other infrastructure costs are there?	9
Apps	9
Other equipment	9
What is the finance model?	9
Which students will be equipped?	10
Taking tablets home	10
What e-safety and usage policies are needed?	11
E-Safety policies	11
Which tablets do we buy?	12
How can parents be involved?	12
How will the implementation be evaluated?	12

Section 2: Preparing teachers for tablets	13
Getting teachers comfortable	14
'Can-Do' statements	14
Start small	14
Discuss how and when tablets will be used	15
Practise sharing and collecting work	15
Selecting apps	15
Continuing Professional Development	17
Accept the unexpected	17

Section 3: Teaching with tablets in ELT	18
What is good learning with tablets?	18
Classroom organisation	19
Supporting personalised learning	19
Using apps in the classroom	20
Automation apps versus creation apps	20
What are the anticipated learning outcomes?	22
Example: digital storytelling	22
How will tablets help fulfil the learning outcomes?	23
How will students use the tablets?	24
Using the camera	24
Audio recording	25
Gathering responses	25
What will happen to work produced?	26

Conclusion: What evidence is there on the use of tablets?	27
References	28
Useful websites	29
Resources	29

About the Authors

Diana Bannister, MBE

Diana Bannister is the Development Director for Learning Technologies at the University of Wolverhampton. Diana is based within the School for Education and is responsible for the Learning Technologies Unit with a focus on external projects looking at effective use of learning technologies in primary and secondary classrooms.

Diana works across the education sector with Ministries of Education (MoE), National Agencies, Regional Authorities and directly with schools to implement technologies for learning and to understand how to mainstream practice. She regularly leads development sessions to enable teachers to learn from each other's practice. In this role, Diana has grown an international reputation to facilitate the strategic understanding of many aspects of organisational change involving the use of technology.

The Learning Technologies Unit, School for Education is working with [European Schoolnet](#)¹ on two European projects including the [Living Schools Lab](#)², focused on the development of a network of schools to look at the innovative use of ICT in the classroom, and the [Creative Classrooms Lab project](#)³, which is working across eight countries looking at the use of 1:1 devices, primarily the use of tablets across secondary schools. Diana has also completed extensive research on the use of interactive whiteboards in education and learner response systems.

Diana is passionate about education and the use of technologies for learning and teaching. She began her career as a class teacher and deputy head teacher, which allowed her to recognise that there is sometimes a gap between policy and practice, and she is often building the bridge between the two.

DianaBannister@wlv.ac.uk

 [@DianaBannister](#)

Shaun Wilden

Shaun Wilden has been involved in English language teaching for over twenty years. He is currently the International House World Organisation Teacher Training Coordinator but also works as a freelance teacher trainer and materials writer. Apart from that, he maintains several online teaching sites including [IH Online Teacher Training](#)⁴, which provides asynchronous teacher development for ELT teachers. He has been talking and training about the use of technology in teaching for the nearly a decade, giving keynote talks all over the world. He is a moderator of the twitter [#eltchat](#) group which meets every Wednesday to discuss issues and ideas in ELT and an events coordinator for the IATEFL Learning Technologies SIG.

shaunwilden.co.uk

 [@shaunwilden](#)

References:

1: <http://www.eun.org/>

2: <http://lsl.eun.org/>

3: <http://creative.eun.org/>

4: <http://ihworld.com/online-training>

Introduction

The purpose of this report is to provide practical support and guidance for decision makers in educational institutions that are considering implementing tablets.

It explores some of the common questions, including: Is my school ready for tablets? **Which students will be equipped?** and **What is good teaching with tablets?** The answers will be equally useful to school leaders and teachers in schools, colleges, and Universities, as well as those working in Ministries of Education.

In the report, we'll be referring to tablets as 1:1 devices, meaning one device for each student.

Why do schools implement tablets?

Schools implement tablets for several reasons: some are required to by a government initiative; some want to provide access to technology for all students; others believe that the

innovative use of technology will help them to achieve the desired results.

You may be able to identify your school with one of the different types of implementation:

Centralised –

government or state led across one or more identified areas, involving particular schools and students.

Local authority led –

across a smaller area, usually involving students of a particular age group.

School led –

these are generally smaller initiatives. Whilst there are many examples of these, in many cases it is too early to report on the success of the implementations. There is no doubt that in the last three years, there has been a definite shift towards the purchase of individual devices. This is largely because these devices have become significantly cheaper for the individual schools to purchase for themselves, and this in turn has allowed teachers to conduct small pilots to test the potential of such technologies. The challenge for these schools is to sustain the implementation beyond the pilot phase.

Commercial –

these are projects that have largely been influenced by commercial suppliers. In these types of initiatives, equipment has been provided at no financial cost in return for the teacher committing to developing the use of the technology within the classroom.

Bring Your Own Device –

This is commonly referred to as BYOD. In private language schools this might simply be a case of allowing students to use the technology they bring with them to class. However there are also projects where the devices have been totally self-funded or parent-funded.

One tablet per classroom –

At a basic level this is simply a school giving each teacher a tablet which they can use for collaborative work or in conjunction with a projector in the classroom. It is often employed in smaller language schools which do not necessarily have the budget for larger scale implementation. It is also used in conjunction with BYOD approaches.

Regardless of the initial route, schools need to establish a long term commitment or they can very soon find themselves with out-of-date equipment and little change to their pedagogical approach. In the 21st century perhaps the decision is not if students should have access to individual devices, but when and how it will happen.

“Using personal devices for learning will become a mainstream expectation over the next three to five years.”

Tablets have become an attractive device because they are halfway between laptops and mobile phones. This means the student is able to travel with the device, yet it is big enough to work on for a period of time, unlike pocket-sized devices. It can also be used with a stylus, which students find useful for note taking whilst becoming familiar with the touch screen keyboard.

School directors will need to consider whether the teaching staff is fully prepared and ready for the commitment that will be required. This should involve lead staff visiting other schools that have already implemented the technology. Schools will also benefit from purchasing tablets for staff before the students are given access, allowing teachers to become familiar with how they can be used.

Using personal devices for learning will become a mainstream expectation over the next three to five years. This is because more and more students will have their own access to such technologies. However, it will take much longer for a full pedagogical shift.



Section I: Key decisions for school leaders

This section highlights some key questions to help school leaders with the important decisions they need to make right at the very beginning, and that ultimately will impact on the whole implementation process.

There are important decisions to be made before the school purchases tablets for students – and the key thing is that those decisions need to be made at every level of the organisation.

It is also imperative that the decisions involve the management of the organisation. The implementation of 1:1 devices triggers systemic change, which means that regardless of who implements the technology, there is an impact on the other systems in school. It is not just a case of buying the equipment.

Decision makers need to give consideration to the following questions before purchasing the technologies.

Is my school ready for tablets?

As with any change, introducing tablets into teaching takes careful planning. You need to think about why you want to implement tablets and establish a plan.

You may decide to focus on a particular age group of students or a particular subject, for example, using tablets to improve the teaching of languages. A growing number of schools have huge budgets for equipping every learner at the same time. However, there is much to be said for those who make incremental change.

Educational principles are imperative because you will have to justify the investment of time and money to ensure that everything is in place.

Who will lead the implementation of tablets?

You should establish a team to lead the implementation of the equipment and its use. This should include a member of the senior leadership team, identified teaching staff and someone who provides technical support in school.

This team will be familiar with the current practice of teaching staff and be able to recognise and provide the necessary support.

Partnering with other schools

Since many schools around the world are currently considering or implementing tablets, there is a wealth of information on the Internet. Search for 'implementing tablets in education' and you will find many useful blog posts, presentations and links to YouTube. There are also a number of free publications you can download such as *iPads in the Classroom*³ by Sabrina Huber. Likewise if you use social media there are a number of groups that you can join, for example search Twitter for #ipaded and #ipadchat. On Facebook there are open groups such as 'mobile devices 4 learning' and 'apps for education'. While these are not ELT specific they provide the opportunity to find out more information and ask questions.

References:

3: <http://13t.eu/itug/images/band2.pdf>

It is a good idea to build partnerships with schools that have already begun to implement tablets. You will find it helpful to visit schools to observe lessons and to discuss practical issues. While it might not be possible to visit another ELT-focused school, looking at the state sector might provide you with opportunities. In many countries the state sector was an early adopter of tablets and the lessons they learned can be applied to the ELT context. There are many students in early years education that have been fortunate enough to work with 1:1 devices and therefore it is important to find out what they can already do and what they have had access to. Is there already an existing programme that you can link to? How do local early years schools link to the implementation of tablets in middle years schools?

Creating student leaders

If it is practical, students need to be brought into the implementation at an early stage. In many ELT schools the student is a client, so it is important to get their support. As well as discussing with students what the plans are, be clear about benefits of tablets. For example, explain that tablets will allow them to take some control over their learning. Being able to deal with language students on a personal and differentiated level rather than as a homogenised class is one of the great advantages of using tablets (see **Section 3, How do tablets support personalised learning?**). Additionally, by using the tablet for creative projects students are able to put language into meaningful practice both in and out of the classroom.

You should also involve the students in training. You will find it helpful to recognise particular students as digital leaders so that teachers can enlist the help of them in lessons to support others.

Students should be encouraged to provide 'First line support' where a group of able students take responsibility for solving minor problems.

Does my school have the technical infrastructure to support tablets?

Schools have to ensure that the technical infrastructure and their curriculum will support the use of the tablets. This will involve checking that Wi-Fi access is stable and will support the number of tablets. Whether you choose school-led implementation or BYOD ('Bring Your Own Device'), having Wi-Fi access in the school is essential for tablet implementation. Even if the school has Wi-Fi, it might need to strengthen its connections to allow class(es) of students to all be online at the same time. With BYOD students' devices might be connected to the Internet via a mobile telephone network, however data packages on tablets are often expensive and a school cannot expect a student to use their own device without providing Wi-Fi. The additional advantage of having a school Wi-Fi network is that it can be configured to block sites that you do not want students to be able to access. It should be noted that Wi-Fi is not needed to run most apps, however to access the Internet and connect tablets together a network is needed.

Schools that have chosen to consider BYOD have to look closely at the technical infrastructure in school. It is essential that the school has considered potential security issues and data protection. It is therefore better if the school provides the main network for school systems and a separate guest network for devices that do not belong to the school.

Student portfolios and data

Another consideration is where work will be stored and shared. The tablet is unlikely to be the only technology that students use, so it is essential that they have access to a Virtual Learning Environment to be able to collate their own digital portfolio.

Schools tend to use Clouds for ease of sharing. Sites (and apps) such as [Dropbox](https://www.dropbox.com/)⁶ allow teachers and students to share work by uploading it to the same folder. Although storage providers offer a certain amount of free space, to cover a school will require paying an annual subscription.

References:

6: <http://www.dropbox.com/>

Support

Schools have also set up their own helpdesk in school time to support students who have problems with their individual devices. If you do this, it is also important to keep a log of calls to identify common problems and ascertain how they are resolved. It will also help you to understand if additional training is required. In smaller language schools the helpdesk could be run by IT support and integrated into the school reception area.

“It is critical that a long-term financial model is in place, enabling students and parents to see that the school is fully committed to the implementation.”

What other infrastructure costs are there?

In addition, schools investing in tablets need to consider day-to-day management of the tablets. This is a long-term investment of both time and money. On a daily basis somebody will need to ensure that tablets are charged and maintained in good working order, as well as keeping apps synched. When a teacher takes a set to class all the tablets will need to be working in the same way with the same app. Depending on the scale of investment in tablets, the school might also need to purchase equipment such as an iPad cart. The school will need to resolve who is responsible for these tasks.

Apps

Often overlooked when budgeting for tablet investment are the ongoing and additional costs of implementation. Apps can cost money and if you have a class set of 20 tablets you need the app 20 times. While both iOS⁷ and Android⁸ operate educational pricing, a school needs an annual budget for purchasing. Even if you plan to limit the number of apps used, a word-processing app and most likely a presentation tool will be needed. As with tablet maintenance, the responsibility for dealing with the educational account needs to be given to someone.

Other equipment

If tablets are going to be used to display work in the classroom then the school also needs to consider how to achieve this. This can be done using a data projector and the relevant leads, provided the tablets have the ability to be projected. Additionally, different tablets use different adapters to connect them to projectors.

Dealing with sound volume is another consideration. A set of speakers for classroom use might be needed, and tablets might need headphones so that listening exercises can be done on an individual basis.

What is the finance model?

All too often, schools find innovation or project funding for the initial purchase of a number of tablets without a long term plan. Schools without further funding can soon end up with devices that are out of date. Therefore, it is critical that a long-term financial model is in place, enabling students and parents to see that the school is fully committed to the implementation.

References:

7: <http://www.apple.com/education/ipad/volume-purchase-program/>

8: <http://www.google.com/edu/tablets/>

In *Netbooks on the rise: European overview of national laptop and netbook initiatives in schools*⁹ three key financing models were identified:

- Full financing (by state and/or local authority)
- Co-financing – by state and/or local authority and parents
- Free – equipment provided by industry

With a fall in the market price of portable computer devices, a co-funding model where parents and/or schools take responsibility offers a more promising long term prospective and possibility to make 1:1 a sustainable programme.

IPTS report (2013), p. 7

“ Taking the device home encourages learning outside the classroom and helps integrate English into the real life of the students.”

Which students will be equipped?

The implementation team will need to decide which students to equip first. There are examples of large numbers of students being equipped at the same time, but this will depend on the finance available. If you can only choose a certain number of students then it will be helpful for you to select one of the younger year groups, as this will mean that you can monitor their progress for longer. It will also mean that, by the time the students are older, they will be more familiar with working with the tablets and be able to use them independently for learning.

Schools and colleges need to give consideration to equity of use. If devices are limited the school will need to decide which students will be given access. For example, is it more useful to give two classes access to shared devices or to give one class individual access?

The reality is that this will depend on the tasks that teachers are doing, and the subjects taught. Ideally, the school will work towards 1:1 and equip a number of whole classes within a planned phased implementation that runs over two to three years. This is preferable to asking students to share devices.

Taking tablets home

A decision should be made on whether or not students can take tablets home. This usually depends on the ownership of the devices. If the student or parent owns the device then it is most likely that students will be able to take the device to and from school. Where the school owns the device, you will need to decide whether it is beneficial for the student to take the device home. If the decision is made to allow students to take their device home, you will need to ensure that the school and/or the student have appropriate insurance in place.

One advantage of taking the device home is that students can seamlessly use their device in and out of class. This encourages language learning outside the classroom and helps integrate English into the real life of the students.

References:

⁹: http://resources.eun.org/insight/Netbooks_on_the_rise.pdf



You will need to be aware that not all students will have Internet connectivity at home and as part of the purchase, you may be able to consider ways of supporting students to be connected to the Internet at home. Not having the Internet can preclude the student from sharing and uploading work, though as previously stated, most apps work without an Internet connection.

The use of 1:1 learning devices provided by the school has also led to other questions. If the devices are meant to encourage use at home, how will the school support this? Teachers need to consider how learning activities will be assigned to students.

What e-safety and usage policies are needed?

You should develop an agreement with students about the usage of the device. A usage policy is simply a document that defines what is acceptable use of tablets within a school. For example, it states what the user responsibilities are and who is responsible for what. A usage policy needs to be agreed before any implementation. As with other parts of the implementation strategy, teachers should be involved. Not having policies in place means that there are no 'ground rules' and different teachers will end up allowing different things in their classes. You can find many examples of user policies for schools online, and [this ICT blog](#)¹⁰ is a good starting point.

In addition to usage policies, the school needs to make teachers aware of other factors, in particular what is acceptable in terms of videoing and photographing students and where student work might be stored. Most countries have strict rules about the videoing and photographing of children. A school should draw up a permission form that is signed by the students or their parents (in the case of minors). This form will also cover where work is stored, especially if any work produced on a tablet is going to appear on blogs, YouTube and so on.

You should also have an e-safety policy in place. The school needs to take responsibility for teaching digital safety both in and out of school. Teachers will need to think about the tasks that they ask students to complete outside the lesson. Parents also need to take responsibility for their children to ensure that they recognise potential security problems. The school needs to provide regular information sessions for parents, encouraging them to take responsibility for educating their children about the dangers of working online.

E-Safety policies

An e-safety policy should be in printed form and included in initial lessons with students. It should cover areas such as:

- Not sharing personal information online
- Appropriate and inappropriate behaviour online
- What is appropriate and inappropriate to upload
- Safe searching and safe communication
- Copyright

As with usage policies, there are many examples online. Searching the phrase 'e-safety policy for schools' will lead you in the right direction.

References:

¹⁰: <http://theictadvisors.co.uk/ipad-acceptable-use-policy/>

Which tablets do we buy?

People often ask which brand of tablet they should buy. The key thing is to consider the operating system and the size. Like any device, the minute someone refers to a tablet by brand and model it has already been superseded by a different model with the latest features, a faster processor and a better camera. Schools do need to do research about the types of devices which readily integrate with existing systems in school and home. What works for one school might not work for another. Though there are quite a few tablets on the market, three are heavily investing in education: Android™, Apple and Microsoft®. While all three have their advantages and disadvantages, remember that not all apps are made for each, and even when they are, they might work in different ways.

Students might find it easier to work with tablets measuring 7+ inches rather than 10+ inches, and of course, this may substantially reduce the cost. While it is probably not feasible to trial a range of tablets to find out what works best for everyone, the main sellers are usually happy to let you try them out and discuss their features.

One of the key considerations for schools is whether all the students will have the same tablet. Evidence indicates that it will be easier to tackle any technical problems and to provide access to spare devices. It can be helpful when teachers know that students will have access to standard software and apps. This is something to bear in mind when dealing with a BYOD ('Bring Your Own Device') situation, as it is very unlikely that all students will have the same device and the same apps.

However, there has been a suggestion recently that it is beneficial to look at a range of devices. You will find it helpful to agree with your supplier a minimum specification for the tablets, but allow the student to choose from a selection. This can be particularly helpful if parents are supporting the finance, because it allows for a range of devices that have a standard specification, with the possibility of purchasing additional features. It will

also mean that younger students can have a less expensive device for two to three years.

Using the Internet to find out what other schools have adopted is a useful starting point. As with all areas of tablet use in education, many teachers have blogged their experiences. A particularly useful (if slightly dated) three-step guide can be found on [this blog](#)¹¹. You will also find a discussion of the different operating systems on [the OUP blog](#)¹².

How can parents be involved?

Parents like to be kept informed about the progress of the implementation of tablets. This will include inviting them to a meeting to look at devices even before the tablets arrive. As a school, you may also decide that the parents are going to be invited to provide financial support for the students to have access to the technology, and therefore it can help to demonstrate what a typical school day might look like if the student has access to a tablet. This will enable the parents to see the value of what they are paying for.

You will find it useful to provide opportunities for parents to see the tablets being used by students. You should provide sessions for parents and students to learn to use the tablets together.

How will the implementation be evaluated?

One of the challenges of implementing technology is to get teachers and technicians talking and working together. Teachers should not be working in isolation and neither should the technicians. The implementation of tablets needs to be done in phases and it also needs to be reviewed regularly. It is good practice for the school to document and review the

implementation plan at least once a month, as this will make it easier to look at what is working. The meetings need to cover areas such as:

- The type of tablet used
- Other equipment that will be needed
- Post-implementation upkeep, such as keeping tablets charged, ensuring they have correct, up-to-date versions of apps, and so on.

From the outset, the school should evaluate their use of the tablets. Whilst this is an additional time commitment, it will help the school to remain informed about the implementation process. At a simple level, this might include opportunities to survey staff, students and parents. It will involve classroom observations, as well as opportunities to share practice and to collate evidence of results. The school's learning and teaching team should be encouraged to monitor the use of the technology.

Schools can choose to employ an independent evaluator, as it can be particularly useful to have someone detached from day-to-day activity asking questions about the implementation in the role of a critical friend. Teachers will find it useful to record particular lessons, as this will help them to share practice and provide valuable discussion for staff to analyse together.

Apple is a trademark, registered in the U.S. and other countries.

Android is a trademark of Google Inc.

Microsoft is a trademark of the Microsoft group of companies.

References:

11: <http://wordpress.rowan.edu/virtechgo/?p=482>

12: <http://oupeltglobalblog.com/2013/09/24/apple-android-or-windows-whats-best-in-elt/>



Section 2: Preparing teachers for tablets

It is not just a case of buying tablets then using them: the school needs to plan carefully how the tablets will be introduced and what the expectations are of the staff using them. This section provides advice for schools on preparing teachers for implementing tablets in the classroom.

Plan key dates for stages of implementation and allow as much time as possible. Almost all organisations will have staff who are keen to use tablets and those that are resistant. For a successful introduction of tablets the school needs to invest in a clearly planned change management and teacher development process. The school should also be prepared to evaluate their effectiveness and modify usage over time.

“ Use Can-Do statements to help teachers familiarise themselves with their tablets.”

Getting teachers comfortable

Any planned integration should be implemented with teachers *before* the planned use with students. If tablets are going to be used successfully in the classroom the teacher has to be comfortable with them. One way to achieve this is to give a tablet to staff members and ask them to ‘explore’ what they can do for themselves. This is followed up with a CPD (Continuing Professional Development) session when teachers talk about what they found. In this session, concentrate on the native features of the tablet and focus on what these can do. Do not jump in with apps as this can add a level of anxiety. Focus, for example, on the camera and what it could be used for in terms of language learning. Make sure that any ideas generated by the staff are noted down for future reference.

Teachers should also make a regular time to share ideas in school. This will help them to recognise that their challenges are also shared by colleagues and can be resolved together. It can

certainly help to focus the discussion in meetings by saying what the school would like to achieve in three months’ time, six months’ time and 12 months’ time.

Start small

While this might not be possible with a government-led initiative, starting small has a number of benefits. If possible start with a trial group rather than the whole school. Using a set of tablets with a few teachers and one or two classes will provide valuable feedback. It will also uncover potential problems that implementation might bring, allowing for them to be solved before wide-scale implementation. This is what a large private language school in Spain did. Using just six tablets and six teachers, they spent a year trying them out in class. With regular meetings they were able to discuss tablet effectiveness, draw up a list of apps and decide on the training needed to use them. They were able to create the necessary paperwork for the wider rollout, including user policies and the relevant permissions forms required for recording students.

‘Can-Do’ statements

Most language teachers are familiar with the use of ‘can-do’ statements for students to assess their progress. Implementing a similar system for teachers provides a further way to check that they know their way around the tablet. For example:

- I can power the tablet off and on
- I can navigate between different screens
- I can take a photograph and access it on my tablet
- ... and so on.

This blog post¹³ has a downloadable set of statements and though it was designed for use with students, it could be used with teachers.

References:

13: <http://sevhandenise.edublogs.org/files/2013/09/I-can-for-iPads-26in09b.pdf>

Discuss how and when tablets will be used

Like all resources, one of the key decisions about tablets is to consider when and how teachers expect the devices to be used. This should be discussed and agreed early on in the training, as unused devices are worse than no devices at all. From the outset, it needs to be made clear that staff and students take responsibility for using the devices. This requires focus, planning and integration. It also requires commitment and understanding from everyone. Technology-reluctant teachers know the resources are available in school, but have never actually used them. Devices are somewhere, but for someone else in a different department who is 'good with technology'. The other extreme is the teacher who gives out the devices and then proceeds to do everything focused on the technology, forgetting the teacher input needed for subject-specific learning to take place. It is important to find the happy medium.

There is no set time period in a lesson in which students should use the tablet. This will vary from student to student and from teacher to teacher. However, teachers need to ensure they are ready for students to access digital materials designed for the tablet. This does not mean just the digital version of the textbook. It means the teacher has to think about the activities that students engage with. It will also affect the types of activities the students are able to participate in outside lesson time.

In reality, the technologies are changing so fast that all schools are still learning, so how the devices are used depends very much on the individual context, and the confidence of the teacher.

Practise sharing and collecting work

The teacher will also need to know where on the Virtual Learning Environment the students will upload their work for assessment. Students need to know where to save their information or examples, and this is particularly important if students share their tablets with others.

Having decided the system the school will use for sharing work and student portfolios, it is important to incorporate how this works into a CPD (Continuing Professional Development) session. As with tablet use, it may well be the first time that a teacher is using a Cloud-based system. Do not assume that all teachers will know how to create and share folders.

Additionally, schools need to ensure that all teachers follow the same system. Bear in mind that students will want to know that their work has been received; they also want to know when teachers will look at it, including when and how it will be marked.

“By asking the students to suggest an app of the month or a review of a new app, they are practising their language skills.”

Selecting apps

Once implemented, students can take the lead with locating and using new apps. As their teacher, you need to find a way to ensure that the students can share this knowledge. For example, you could have app of the week/month. This type of project helps to integrate the tablet with learning. By asking the students to suggest an app of the month or a review of a new app, they are practising their language skills. Given the recording abilities of a tablet this could be either a spoken or written activity.

There are thousands of apps available and finding the correct ones to use can be as daunting for teachers as first using the tablet itself. For this reason it is best to start by introducing one or two apps at a time. These should be simple apps that build upon what has come before. See page 24 for examples of apps that are useful additions to tablet-based activities.

Make sure that teachers are involved in the choice of apps. For example, a weekly task prior to a staff meeting might be for each teacher to download an app and then come to the meeting and say how they would use it. Bear in mind that it is not so much about the app but how the app can more effectively help learners meet the desired learning outcome (see **Section 3, What are the anticipated learning outcomes?** on page 22).

There are often a number of apps that do similar things, so choose an app that has the best coverage for the school. For example, screen recording is a popular tool in classrooms. It allows teachers to make short videos of language presentations, and students can also make presentations. A cursory look in the iTunes store will present about 10 good quality options for this. However it is best to avoid the scenario of one teacher using one and another teacher using another.

Choosing apps

To help decide on whether an app should be used by the whole school, a good first step is to classify apps according to their use. Are they:

- System driven – Provide essential productivity tools that enable the teacher and student to create resources or lesson materials or outputs.
- School driven – Determined by the individual school as they connect with learning in the school curriculum. This should also include the Virtual Learning Environment.
- Teacher Driven – Determined by the individual teacher as necessary for the lesson
- Student Driven – determined by the individual student as supporting learning

Then to help decide which particular app to choose, consider:

- How new is it? This will indicate if it is up to date and gets updated.
- What do other teachers say about it? Read reviews and blog posts about the app.
- Does it require technical support? If so, does this make it complicated to use?
- Does it work on my tablet? Remember that different tablets use different operating systems.
- How much does it cost? Is educational volumning possible? Are there additional costs?
- How would this app work in a BYOD situation?



Continuing Professional Development

Training should not just be given at the start of the implementation. Teachers will need regular training. In the initial stages this will primarily help build confidence and help the teachers to integrate the tablets into daily teaching. It will help to set realistic goals for the staff on their way to implementation. Once tablet use starts to become normalised then ongoing development is needed to discuss new apps and activities. Tablets and what they do is constantly evolving, so Continuous Professional Development helps keep everyone informed. While CPD should involve everyone, appointing a member of staff as a digital champion will ensure that someone is responsible for the ongoing development. A digital champion is essentially someone who champions the use of tablets and can lead and coordinate training. They should be comfortable with tablet use and actively involved in their own CPD in this area, either through self-study online or attending specific training courses.

Accept the unexpected

One reason that teachers often shy away from technology use in class is the fear that it might go wrong. This can be very stressful for teachers, so time should be included in CPD for dealing with solutions to problems. It should be also used to reassure teachers that they do not have to be technological experts.

There is a huge concern among teachers that students will be involved in other tasks during the lesson and not be focused on what they should be doing. Like many aspects of classroom management, this is about setting the 'golden rules' of what is acceptable and not acceptable in the school or institution. For example, teachers need to decide if it is appropriate for students to be able to use social media. Schools will find it difficult to ban all use of social media and then encourage the students to work collaboratively within and beyond the lesson.

Tablet use in class cannot be overly planned and scripted by the teacher. By their nature, tablets lead to creativity and teachers will need to learn to embrace this and perhaps relinquish a little classroom control, a point discussed further in the next section.

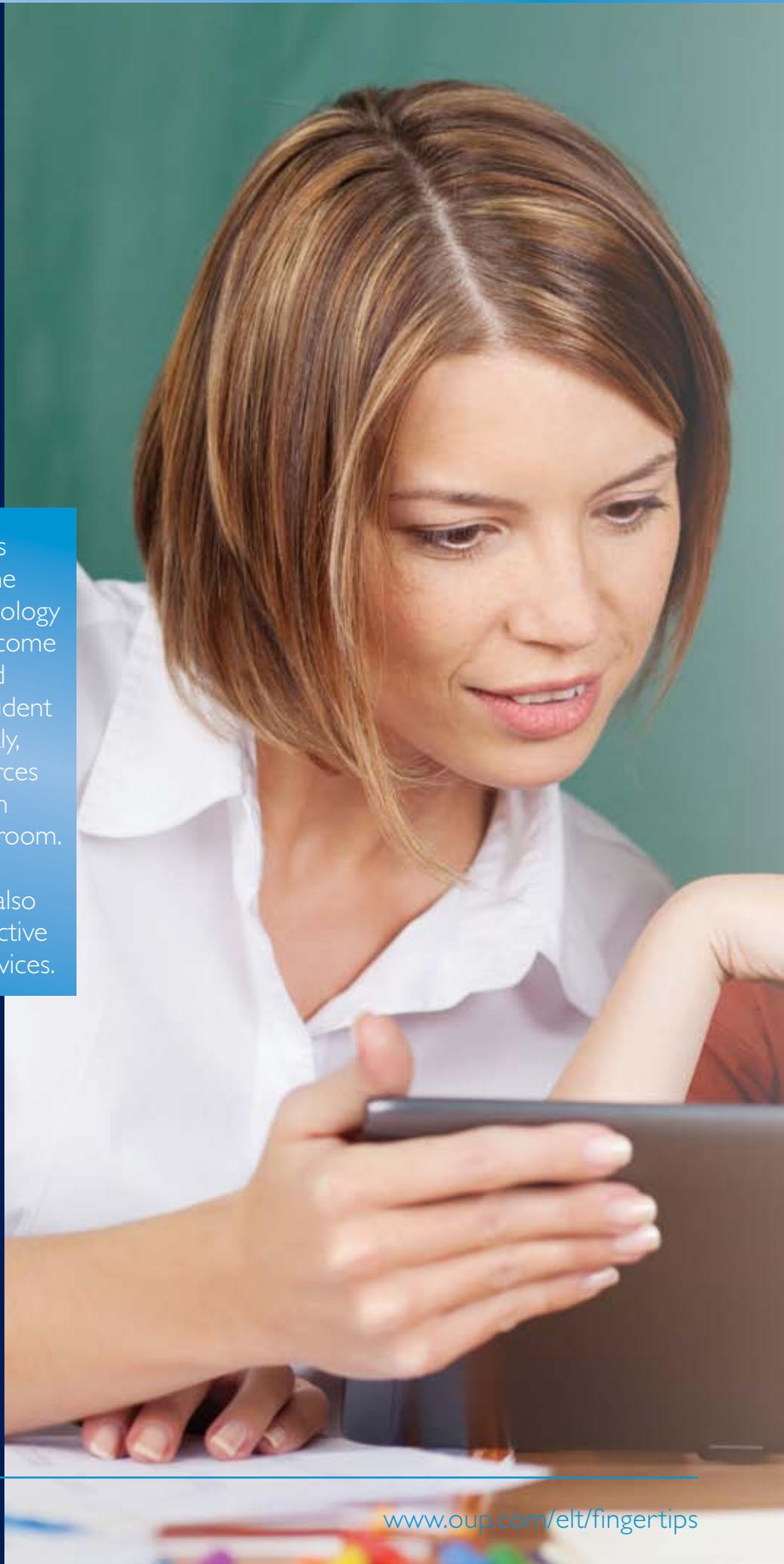
“ This is about setting the ‘golden rules’ of what is acceptable and not acceptable in the school or institution.”

Section 3: Teaching with tablets in ELT

What is good learning with tablets?

Good learning with tablets is seamlessly integrated into the curriculum. The use of technology can allow the teacher to become a facilitator, a moderator and even a learner, whilst the student is able to work independently, connect to additional resources and transfer knowledge both within and beyond the classroom. Immediate collaboration, response and feedback are also significant factors in the effective implementation of tablet devices.

The implementation of tablets can be a moment when the teacher realises the need for student autonomy within learning. This is dependent upon curriculum change, but students will want to explore the potential of the devices without necessarily being instructed. Rather than strict planning and control, a teacher needs support to integrate these devices into school, giving students frameworks and templates for their tasks.





“ If the room was arranged differently, would the students be able to work together more easily? ”

The school has to decide how these technologies fit into the school day. Tablets can be used across all subjects and with any age group. Like all technologies, it is not the device itself, but the way it is used that becomes imperative. One of the most important benefits of using tablets is the opportunity to connect different areas of student learning.

There is no reason why the tablet cannot be used in every subject area. However, schools need to consider whether it will be better to identify key subjects in the first instance. This will also be helpful to staff who want to see practical examples. That said, there is no reason to start with one particular subject. Languages can be an excellent place to start because as well as the existing tools on the device, there are specific language apps for students and teachers to explore. It also means that teachers can draw upon communication and collaboration with students to extend opportunities for learning.

Classroom organisation

The introduction of tablets into the classroom will have an impact on classroom organisation. On a practical level, teachers may well need to rearrange the furniture to allow students to work together around a device. It will be necessary to establish a routine with students from the very beginning. If the room was arranged differently, would the students be able to work together more easily?

Teachers would probably give the same consideration to classroom organisation if students had no access to technology, but the implementation of tablets is an opportunity to reconsider what works best. As the students become familiar with working straight on to the tablet, class time can be organised differently.

Are students set a task for the lesson? Or a series of lessons? Teachers will find that it becomes easier to implement

project-based learning as students have better access to tasks and become familiar with working without teacher delivery.

For example, what can the students do in advance of the lesson which will enable teachers to have a different starting point? Students might have been asked to watch a video or prepare digital material that can be used in the lesson. It means that from the moment the lesson begins, the students have prior knowledge and can share their decisions. It also means that they are ready for what they will be asked to do next.

Supporting personalised learning

Meeting the personalised needs of students has long been a tenet of the classroom. When dealing with a class this is often difficult to achieve, as the teacher tries to balance the needs of many, and it is common to experience a situation in which an activity is paced too quickly for some students and too slowly for others. The introduction of tablets into teaching has been considered as one way to be able to offer more personalised and differentiated learning.

Tablets used in class will be filled with various educational contents such as coursebooks, apps and videos, thereby providing students with a variety of resources. Rather than the teacher being fixed at the front, the classroom will become much more about small-group instruction.

It is easier for the teacher to assign different pieces of work to different (groups of) students, and students no longer work on the same activity. The students that have a good understanding of a language point can work on a more advanced activity, while a student who is struggling and needs further help can be assigned a different task. Rather than being fixed at the front of the class, the teacher is free to walk around answering questions and providing additional help as needed.

Personalising Reading Tasks

A simple example of using tablets for personalised work would be the creation of different tasks for a reading text. While a teacher can do this without tablets by creating handouts, with a tablet the whole process becomes easier to manage. It is also less obvious to the whole class that students are doing different tasks. The teacher simply uploads the documents either to the Cloud for the relevant students to download or preloads the task on the tablet prior to the lesson. With the development of apps such as Nearpod¹⁴, a teacher can create whole work schemes that can be assigned to students to work through at their own pace. Teachers use a Cloud application (such as Dropbox, mentioned earlier) so that work can easily be assigned and accessed by students.

The teacher is more likely to have the role of facilitator during a lesson. This might be a new role for a teacher more used to leading a lesson from the front of the class and inputting language for the students to use. While there may well be stages in the lesson when this is appropriate, when the students are engaged in project and collaborative learning on a tablet, the teacher may need to take a less active role. In these stages the teacher will be required to monitor, give advice and guide the students so they can work towards the learning outcome. Rather than inputting language, the teacher may also have to deal with language emerging from the tasks. This can at first feel daunting as the teacher may feel less in control of the lesson, but such language is likely to be more memorable to the students as they require it for their tasks.

References:

14: <http://www.nearpod.com/>

Using apps in the classroom

Whilst a lot of apps are intuitive, teachers cannot always assume that students are making best use of all the features. It is worth adding in regular lesson time to share ideas and tools. This can be led by the teacher or ideally, one of the students. In the beginning it will be easier to recommend to students to use particular apps.

It is a good idea for the teacher to highlight a minimum list of resources for the students to use. This will help to ensure that all the students have the key information and that there is no need to search randomly. Students should be encouraged to build their own bank of resources that they use for particular subjects or topics, as this will help them to organise information when they need to refer to it again. However, as the students become more confident, they will not need to be told which apps to use.

Automation apps versus creation apps

Broadly speaking the apps used in the classroom will aid either automation or creation. While both have their uses, teachers should avoid overreliance on automated activities. Automated apps are those that create stimulus and response and are similar to those found on student CD-ROMS. Often they require the students to type a word in a gap or identify something in an image. They can also be simply the slides of the teacher's language presentation. While it can be an efficient way of quickly checking understanding, automation can be demotivating for students if overused. Consider that while an automated activity might be an effective way to check students' understanding, the students themselves may find it an unproductive way to use a tablet. An automated app often gives feedback simply by indicating that something is right or wrong, with little or no explanation when the students get the answer wrong. Therefore it is important that teacher follows up when appropriate.

In contrast, creative apps are ones that promote collaboration and communication. On a simple level these might just be a word processing app used to create a collaborative piece of writing, or an app that facilitates students researching a topic for a presentation. The emphasis is on the students creating with the language. In the example below, taken from *iPads in the classroom* by Sabrina Huber page 47, note how she has integrated creative apps into a reading lesson:

“Remember that any app should be chosen for the purpose of the language objective, not simply because of what the app does.”

Reading Strategy	Strategy includes	Suggestions for realization on the iPad: Suitable apps
Pre-Reading Strategy	Brainstorming	TotalRecall, MindMeister
	Movies	YouTube
	Vocabulary work	Worksheets in neu.Annotate+ PDF
	Making predictions	Writing a possible ending in Pages
During-Reading Strategy	Intensive reading (highlighting text)	Annotations and highlighting with neu.Annotate+ PDF
	Retelling new information	Microphone + Recording
Post-Reading Strategy	Reconstructing passages/scenes from a text in comic form	Comic Life (after taking suitable photos)
	Reconstructing passages/scenes from a text in movie form	Video editing in iMovie (adding text)
	Creating a portfolio	Pages (pre-set layouts or own design), Doodle Body for drawings

Table 7.1: Reading Strategies and their Realisation on the iPad

- **Total Recall**¹⁵ and **MindMeister**¹⁶ are mind mapping apps. MindMeister, though a free app, does require a subscription. There are a number of apps for mind mapping. As with all the examples listed, just type the word into the relevant app store to see what is available.
 - **YouTube**¹⁷ is a free video channel
 - **neu.Annotate**¹⁸ is an app that allows the user to write on a PDF file. It is not a free app.
 - **Comic Life**¹⁹ is an app that allows the user to create comics that can be read either on a tablet or exported via PDF. The user takes photos to use in the comic. They then organise the photos and add text. It is not a free app but it is widely used in education.
 - **Pages**²⁰ is Apple's word processing app.
 - **iMovie**²¹ is an app that allows the user to create and edit movies on their iPad.
- In each stage, the apps have been chosen for a clear pedagogical purpose. However, bear in mind that not everything needs to be done on the tablet. For example the mind mapping exercise could be done using paper and / or the board.
- For more apps to use in class, see the [OUP blog post here](#)²². There are also apps that may be of use for a teacher in [the post here](#)²³.

References:

- 15: <http://www.glamtropez.com/totalrecall/>
 16: <http://www.mindmeister.com/>
 17: <http://www.youtube.com/>
 18: <http://www.neupen.com/>
 19: <http://comiclfe.com/>
 20: <https://itunes.apple.com/gb/app/pages/id361309726>
 21: <https://itunes.apple.com/gb/app/imovie/id377298193>
 22: <http://oupeltglobalblog.com/2013/07/16/10-mostly-free-apps-for-creative-language-learning/>
 23: <http://oupeltglobalblog.com/2013/07/09/10-free-apps-for-teachers-to-use-for-planning-and-classroom-management/>

What are the anticipated learning outcomes?

There are many potential benefits for providing students with tablets because the student is able to have individual control over the access to resources to support his/her learning. Students can easily search for vocabulary, translation and pronunciation, as well as images and videos of particular languages being used. However to ensure that the tablets are used effectively as a learning tool, the teacher should ask themselves five key questions when preparing their lessons:

1. What are the anticipated learning outcomes?
2. How will using the tablet help fulfil the learning outcomes?
3. How will the students be using the tablet?
4. What is my role when the tablets are being used?
5. What will happen to work produced?

It is important to remember that fundamentally tablets are simply another tool to assist language learning. When a school places substantial investment into technology, there can be a tendency to expect its use all the time. However like, any tool, it should be used for a clear purpose and when there is a clear learning outcome in mind. The risk is that the lesson is led by the tablet rather than the goal of learning English. Without informed usage, the teacher can spend far too long using 'fun' activities that have been linked together for the apparent reason than students will like them. It is important to ensure that the students understand what they are learning, and that it is not a 'tablet' lesson. Instead the teacher needs to embed the use of the technology into the lesson.

Example: digital storytelling

One area that tablets have made more popular is digital storytelling. There are a myriad of apps designed for this purpose. Many of these are quite sophisticated and would clearly be enjoyed by students. Take for example the [Puppet Pals app](#)²⁴ popular in both Young Learner and adult classes. This is an app that allows students to make short 'cartoon-like' films. Learners can choose a setting, characters or even photos of themselves. Having chosen these things, they create animated scenes and are able to record narration,

voiceovers, and so on. Once completed the work can be played back as a video. It would, however, be remiss of the teacher to go into the class simply because they have found this 'nice app'. Doing so tends to lead to the students sitting round playing with the app but achieving no real learning outcome.

Digital storytelling lends itself to such tasks as collaborative writing. To maximise its effectiveness, it is best used when the teacher intends to address writing in a lesson. The learning outcome would be for the students to produce a digital story. In such a case the app may be shown at the beginning of the lesson projected on the wall in order to show the students an example. The majority of the lesson will then unfold without tablet use, exploring the things needed to make an effective story. The final stage would come back to the tablets, with the students working together, one tablet per group, to produce their work. This may even take place at home if the students have their own tablets, or in the following lesson.

Having decided on the outcome, the teacher can decide how the tablets are to be used (if at all). Different learning outcomes lead to varying amounts of tablet use. In contrast to digital storytelling, which would be a substantial stage, a stage such as pre-teaching vocabulary might be only

“ Different learning outcomes lead to varying amounts of tablet use. ”

10 minutes of a lesson. The learning outcome here would be for the students to familiarise themselves with key vocabulary required for a future stage in the lesson. The tablet is used either with a dictionary app or browser, with the students working to find meanings of the vocabulary provided. In such a stage the tablets are being used in the same way as a paper dictionary and when the stage ends, the tablets are put to one side.

References:

24: <https://itunes.apple.com/us/app/puppet-pals-2-all-access/id557616416?mt=8>

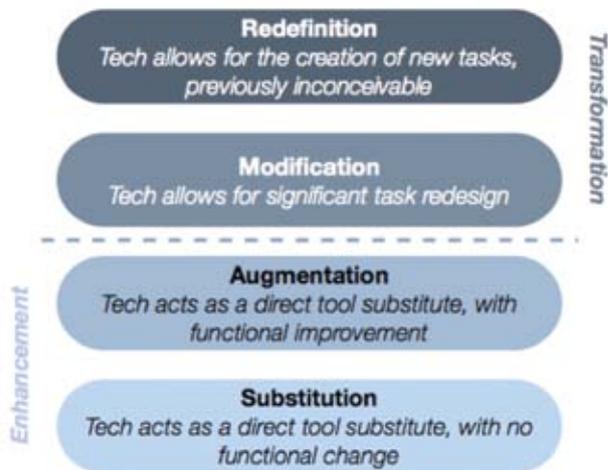
How will tablets help fulfil the learning outcomes?

Having established that the learning outcome is paramount, a teacher should decide if the tablet is the best option for task fulfilment. In the dictionary example mentioned on page 22, the question might be asked as to why a tablet needs to be used; especially if the class has access to paper dictionaries.

A useful model for teachers to decide if a learning outcome is best served by a tablet is that put forward in the **SAMR** model. This is a model put forward by [Dr. Ruben Puentedura](#)²⁵ to assess how technology might impact on teaching and learning.

It is often shown like this:

SAMR (Puentedura)



Following this model, the dictionary example falls into the category of **substitution** (replacing paper with book). It could be argued that if there is no functional change then using the tablet is not necessary. However one additional function that a dictionary app has over the paper version is the ability for the students to hear the pronunciation. If the learning objective is to pre-teach words for a listening activity then using this function would best fulfil that objective. In this case the tablet is providing **augmentation**.

The advent of tablet-based coursebooks has provided the teacher with the chance for significant **modification**. For example, a traditional model of classroom listening tends to be teacher-led with the teacher controlling the audio at the front of the class. Students listen simultaneously usually once or twice before checking their answers. If the learning outcome is to better the students listening skills then using the tablet for the audio transforms this type of task. Rather than being teacher-led, each student can use headphones to listen to the audio on their tablet, playing it as often as they need. Such use of a tablet is able to foster differentiated learning, thus making the learning objective achievable by all. The earlier example of digital storytelling is an example of **redefinition** as it provides a new, multimodal way of addressing storytelling.

While there are no hard and fast criteria to define each of the four areas of the **SAMR** model, the categories provide a useful guideline for a teacher to decide how using a tablet can help fulfil the learning objectives.

“ Rather than being teacher-led, each student can use headphones to listen to the audio on their tablet, playing it as often as they need.”

References:

25: <http://hippasus.com/resources/tte/>

How will students use the tablets?

The first two questions addressed tablet use and learning objectives. A third question a teacher needs to ask is how the students will be using the tablets. With class sets or a BYOD ('Bring Your Own Device') policy, the temptation for the teacher is to assign students individual work, especially in terms of aiding differentiation. However, students come to class to practice language and the overuse of individual tablet work can lead to students sitting in silence at the detriment of spoken practice and communication. [The Partnership for 21st Century Skills](#)²⁶ expresses the need for students to embrace the four 'C's; critical thinking, communication, collaboration, and creativity. While they are not talking about ELT in particular, these four 'C's are easily applied to English language learning and help serve as a reminder as to how students should be using tablets in the classroom. While there is nothing wrong with individual students searching for vocabulary, translation, or pronunciation, a task that requires the students to work together will promote more authentic language.

The teacher should look for opportunities to encourage the students to collaborate. This will involve the students working in pairs or small groups with a device. It is no coincidence that that the increase in tablets in education has led to an increase in project-based learning; the example of digital storytelling given earlier is one instance of this. The tablet allows for many language projects from the small to more large scale.

Using the camera

Tablets have inbuilt cameras. These can be used in a whole manner of ways, from asking students to produce visual dictionaries of lexical sets through to building presentations on a topic. In the former task, groups are assigned various vocabulary from the book and use the tablets to take relevant photos to build

a pictorial representation of the words. Taking a correct photograph shows that students understand the meaning. Furthermore, a blog or wiki can be used for the students to turn the pictures into a visual dictionary, or students can create an e-book using an app like [Book Creator](#)²⁷.

“It is no coincidence that that the increase in tablets in education has led to an increase in project-based learning.”

Alternatively, students can take photographs pertaining to a specific project and use an app such as [Movenote](#)²⁸ to compile them into a presentation. The students are collaborating to decide on the photos they need and what they are going to say. Finally they work together to produce the presentation. In each stage the tablet is secondary to the language being produced.

References:

26: http://www.p21.org/storage/documents/1._p21_framework_2-pager.pdf

27: <http://www.redjumper.net/bookcreator/>

28: <http://www.movenote.com/>



Video

It should not be forgotten that tablets have powerful video cameras in them, turning students into filmmakers. For example, students can collaborate to make films from coursebook dialogues. A popular dialogue to use is one centring on the students ordering from a menu. The tablet can help bring this to life with the students lifting the dialogue from the page of the coursebook. Students work together to decide roles, setting, costumes and so on, before using the camera in the tablet to make and edit the film. Not only does this add motivation to the class but it can also help with mixed ability students, as a film project needs students with creative talents as well as language skills.

Audio recording

Used with the right app, tablets are powerful audio recorders. Apps that encourage the students to make short voice recordings are useful because it becomes easy to track progress, and the students realise for themselves that this is a good way to check their pronunciation. In this case the tablet turns the students into the role of 'teacher'. When doing a speaking activity, the students use one tablet per group to record the activity. In essence the recording is taking place in the background. Once the activity has finished the students can play back their recording and listen to how they did. They can correct themselves and work together to suggest other or better ways of saying what they did. When ready they can repeat the task and compare recordings.

“ Unlike ‘raising a hand’, a tablet helps anonymity and therefore increases the likelihood of the less confident students taking part. .”

As with the filmed role-play above, students can record a coursebook dialogue and play it back to check on the pronunciation. This can be extended to be more creative, with students thinking of, then recording, their own

role-plays based on a topic from their course. For example, if the topic is shops, the students work together to plan and record a dialogue that takes place within their chosen shop. These are then played to the whole class who try and guess which shop it is.

Similar activities include students recording audio descriptions of a word without saying the word. In these audio gap fills, students record a contextualising sentence for a word, leaving a 'gap' for the other students to listen and complete the word. Such activities can be collected into a podcast so that students have the opportunity to revisit the exercise outside of class. Podcasts are also an excellent way of using a tablet's recording ability. In these longer projects, the student can create such things as radio programmes, audio film reviews and so on.

Activities such as these help both teachers and students to think more carefully about how they are using the tablet. They also give students more responsibility within the lesson.

Gathering responses

Tablet devices also enable teachers to undertake voting or response activities within the lesson, which encourages all students to participate. Unlike 'raising a hand', a tablet helps anonymity and therefore increases the likelihood of the less confident students taking part. Voting helps teachers to check how well key points are understood, giving an idea of who has got the point and who

has not. As a result, it helps students feel involved in their learning. Getting all the students involved encourages more collaboration between the students.

There are several free applications which allow students to participate in simple learner-response activities. An app widely used is [Socrative](#)²⁹ (available for both iOS and Android). There are two apps, one for the teacher and one for the students. In the teacher app, the teacher creates the questions they want to ask. These could be simple opinion-finding questions or more complex questions to accompany a reading text, for example. In class the teacher launches the prepared quiz on their app and invites the students to join in. Since the students give their name, the teacher is able to see how they are progressing. The teacher will find it useful to make more frequent formative assessments using voting or response apps. Clearly seeing the progress the students are making in turn allows the teacher to decide what needs to be reviewed and by whom. As the teacher and students grow in confidence, the range of activities can be increased. There are apps for crosswords, jigsaws and lots of board games and these can be adapted for language activities.

What will happen to work produced?

As with any task, tablet or not, the teacher needs to consider what the end result of the task will be. Are the students producing something that needs to be marked? Something to be displayed in the classroom or on a medium such as a blog? The temptation is for the students to only submit finished work, but in fact they can benefit enormously from feedback throughout their learning.

Remember when giving feedback on the task that students should get feedback on the completion of the task itself, not just the language they used. If they have invested time into a project this should be commented on. Teachers may choose to record their response orally, or identify the common points into a single file.

Tablets outside class

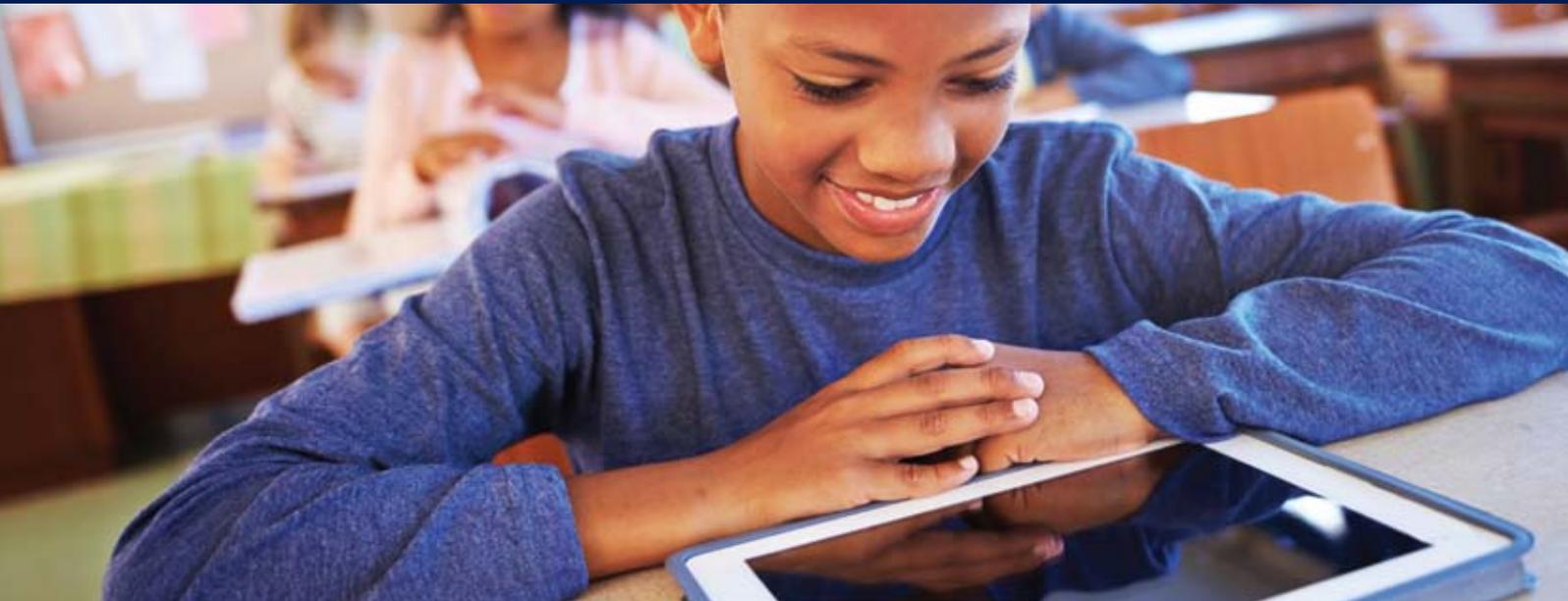
Students can continue learning after the lesson and in advance of the next lesson using the digital materials that they are familiar with. Whilst many students have access to a computer in the home, this is often the family computer and therefore having their own tablet means that the access can be more spontaneous. Teachers should also encourage the student to create or develop their own individual content. This will mean that students are able to present information in a variety of forms and share it with their peers. Students can be very creative if they are allowed to make the decisions about how to present. For example, they might create a video, a voice recording, a web quest or a blog.

References:

29: <http://www.socrative.com/>



Conclusion: What evidence is there on the use of tablets?



There has been debate on 1:1 computing initiatives and a growing body of evidence in the last decade. However, it is important to point out that the proliferation of technologies has moved thinking into the arena of mainstream practice.

The first waves of 1:1 devices date back over 10 years, but these projects were largely about narrowing the gap and improving the links between home and school. The students were given access to the technology and associated resources, but this was more guided and additional resources available for download were limited, if they existed at all. The first implementations of tablets into mainstream practice were much later and it is crucial that schools draw upon the knowledge from the earlier studies, as it provides valuable

information about the themes that emerge regardless of the technology. These have been addressed within Section 1 of this document.

The technologies themselves are continually changing and have become more accessible. Connectivity has become essential and transformational. To an extent, this means that what was once desirable for those who had access is now an expectation for all.

In 2013, the Joint Research Centre for the European Commission: Institute for Prospective Technological Studies published a report led by European Schoolnet: *Overview and Analysis of 1:1 Learning Initiatives in Europe*³⁰. This study identifies 31 initiatives looking at 1:1 learning across Europe. As part of the study, the research team interviewed worldwide experts and leaders for the implementation of 1:1 technologies. Students have been working with 1:1 technologies for a number of years, but having access to their own device

which they are responsible for, like a pencil case, begins to change the dynamics of the lesson time. The implementation of tablet devices has the potential to enable 1:1 learning. However, the pedagogical change needs to be steered and directed as well as allowing independence and choice.

The definitions and descriptions associated with 1:1 continue to evolve, and at present it would seem that we are working towards 1:1 learning, rather than 1:1 computing, 1:1 devices or 1:1 technologies, but this is being determined by the users and the research community simultaneously. It is paramount that schools recognise that the provision of technology alone will not be enough, but the implementation can impact across the whole school.

References:

30: <http://ftp.jrc.es/EURdoc/JRC81903.pdf>

References

- Apple**, 2013 Volume Purchase Program for Education [online]. Available at <http://www.apple.com/education/it/vpp/> [Accessed 18 November 2013]
- Balanskat, A. & Garoia, V.**, 2010. Netbooks on the rise: *European overview of national laptop and netbook initiatives in schools* [pdf], European Schoolnet, Brussels. Available at: http://resources.eun.org/insight/Netbooks_on_the_rise.pdf [Accessed 18 November 2013]
- Balanskat, Bannister et al**, 2013. *Overview and Analysis of 1:1 Learning Initiatives in Europe* [pdf] Joint Research Centre of the European Commission: Institute for Prospective Technological Studies. Available at: <http://ftp.jrc.es/EURdoc/JRC81903.pdf> [Accessed 18 November 2013]
- Bannister, Balanskat and Englehardt**, 2013. *Developing Practical Guidelines for 1:1 Computing Initiatives* [pdf] European Schoolnet, Belgium. Available at: http://files.eun.org/netbooks/1to1_Practical_Guidelines_EN.pdf [Accessed 18 November 2013]
- Bray, O. and Scratcherd, T.**, 2013. *Tablets and Apps: How to ensure impact on teaching and learning* [pdf] Oxford University Press. Available at: http://fdslive.oup.com/www.oup.com/oxed/primary/reports/primary_tablets_apps_report.pdf [Accessed 18 November 2013]
- Google**, 2013. Google in Education [online]. Available at: <http://www.google.com/edu/tablets/> [Accessed 18 November 2013]
- Hammudeh, S.A. and Mcqueen Ozdeniz, D.**, 2013. *I can on my iPad* [pdf] Available at: <http://sevhandenise.edublogs.org/files/2013/09/I-can-for-iPads-26in09b.pdf> [Accessed 18 November 2013]
- Huber, Sabrina**, 2012. *iPads in the Classroom* [pdf] Books on Demand GmbH, Norderstedt. Available at: <http://l3t.eu/itug/images/band2.pdf> [Accessed 18 November 2013]
- Partnership for 21st Century Skills, 2011**. *Framework for 21st Century Learning* [pdf]. Available at: http://www.p21.org/storage/documents/1___p21_framework_2-pager.pdf [Accessed 18 November 2013]
- Puentedura, Ruben R.**, 2006. *A model for Technology and Transformation* [video online]. Available at: <http://hippasus.com/resources/tte/> [Accessed 18 November 2013]
- Penuel, W.**, 2006. *Implementation and effects of 1:1 Computing Initiatives: A Research Synthesis*. *Journal of Research on Technology in Education*, 3,8(3), 329-348
- Valiente, O.**, 2010. *1-1 in Education: Current Practice, International Comparative Research Evidence and Policy Implications*, OECD Working Papers, No.44, OECD Publishing
- Wilden, S.**, 2013. *10 free apps for teachers to use for planning and classroom management* [online]. Oxford University Press. Available at: <http://oupeltglobalblog.com/2013/07/09/10-free-apps-for-teachers-to-use-for-planning-and-classroom-management/> [Accessed 18 November 2013]
- Wilden, S.**, 2013. *10 (mostly) free apps for creative language learning* [online]. Oxford University Press. Available at: <http://oupeltglobalblog.com/2013/07/16/10-mostly-free-apps-for-creative-language-learning/> [Accessed 18 November 2013]

Useful websites

<http://oupeltglobalblog.com/tag/mlearning/> - The OUP ELT Blog – posts tagged with mlearning on using mobile devices in teaching and learning.

<http://creative.eun.org> – Creative Classrooms Lab Project.
How can tablets support new ways of teaching and learning in schools?

<http://isl.eun.org> – Living Schools Lab. A whole school approach to ICT in teaching and learning

<http://1to1.eun.org> – European Schoolnet. 1:1 pedagogy for schools

<http://languagenetworks4excellence.org.uk/> - Language Networks for Excellence. Supporting teachers in best practice in language teaching and learning.

<http://www.itilt.eu/> - Interactive Technologies in Language Teaching. Interactive Whiteboards

<http://www.e-learningfoundation.com/> - e-learning foundation.
Overcoming the digital divide. Evidence of how access to technology and the internet improves learning outcomes.

<http://theictadvisors.co.uk/> - The ICT Advisors provide expert ICT advice for schools and other educational establishments in the UK.

<http://www.saferinternet.org.uk/> - UK Safer Internet Centre. Advice and resources on how to stay safe on the internet.

<http://www.thinkuknow.co.uk/> - Created by the Child Exploitation and Online Protection Centre. For young people, parents and teachers.

<http://wordpress.rowan.edu/virtechgo/> - Technology Awareness for Higher Ed. Blog about technology integration

<http://www.p21.org/> - Partnership for 21st Century Skills – What are student outcomes in the 21st Century, and what support systems are needed.

Resources

Book Creator <http://www.redjumper.net/bookcreator/>

Comic Life <http://comiclifecom.com/>

Dropbox <http://www.dropbox.com/>

iMovie <https://itunes.apple.com/gb/app/imovie/id377298193>

Mindmeister <http://www.mindmeister.com/>

Movenote <http://www.movenote.com/>

Nearpod <http://www.nearpod.com/>

neu. Annotate <http://www.neupen.com/>

Pages <https://itunes.apple.com/gb/app/pages/id361309726>

Puppet Pals 2: All Access <https://itunes.apple.com/us/app/puppet-pals-2-all-access/id557616416?mt=8>

Skitch <http://evernote.com/skitch/>

Socrative <http://www.socrative.com/>

Total Recall <http://www.glamtrophez.com/totalrecall/>

YouTube <http://www.youtube.com/>

