

Bring your own Device (BYOD) for Learning



(Image from www.securedgenetworks.com/strategy-blog/Top-10-Benefits-of-BYOD-in-School-Wireless-Networks)

(As this document strongly relates to ‘Tablets’, readers should also review the advice sheet on ‘Tablets for Learning’)

Learning Context

The ever-increasing use of mobile devices by young people in all aspects of their lives outside of school challenges us to reflect on whether these devices can be purposefully used for learning in schools. Many young people use these same devices outside school time for ‘informal’ learning using apps, games and educational websites. Rather than devices staying at home, idle, during the school day, there is a significant global shift towards using these same devices as mobile learning devices in schools, using an approach referred to as BYOD. The key reason to consider using these devices in schools is to support, enhance and transform the learning experience to improve learning outcomes.

Though schools have much in common in terms of learning objectives, each school is different in terms of its’ own unique mix of requirements, priorities, and challenges. When considering new technologies such as introducing pupil/student devices such as tablets, schools should first consider the school learning priorities and outcomes rather than focus on the technologies involved.

- As part of the school self-evaluation process, schools need to identify overall school learning priorities and outcomes
- The school e-learning plan should form an integral part of wider school planning to achieving these outcomes
- Schools should consider how introducing pupil/student devices as part of a BYOD approach could support achieving these learning priorities and outcomes

So what is BYOD?

Bring your own device (BYOD) involves allowing pupils/students to bring their own devices, especially tablets and other suitable personal devices, into classrooms to support improving student learning outcomes. Rather than the school owning the computing devices, as has been the norm to date, the devices are student owned. BYOD can be used both as an alternative to, or as an additional level of support to computers owned and provided by the school, such as a set of tablets that are being shared between classrooms at different times. Many BYOD suitable devices may be more capable and up to date than some school computers. Schools are beginning to see the potential of BYOD to support a more

BYOD for Learning

student-centered, active learning approach, with students taking more responsibility for their own learning. This also presents potential opportunities for differentiation for learning within classrooms. Though only a small number of Irish schools are using BYOD, awareness and adoption is growing.

Potential Benefits of BYOD

Schools in various countries are implementing BYOD because of its' potential to deliver benefits to learning. Some comments from Irish teachers on the benefits of BYOD include:

'BYOD can promote greater participation from all pupils in the classroom'

'familiarity - most people are most comfortable with their own devices'

'if a child owns the device, they are more likely to look after it properly'

'offers the potential of every pupil using their own device or where this is not possible, sharing a device in pairs'

'homework - class assignments can be finished at home'

Educational Considerations with Tablets and BYOD

Though devices such as mobile phones and other personal devices can be used in BYOD situations, tablets may be more suitable as learning devices. Educational possibilities for enhanced learning with tablets clearly exist, and there is a growing view that, guided effectively by teachers, they offer the potential for a new and exciting era in education. Tablets offer new capabilities and opportunities for learning, mainly in terms of their flexibility, mobile capabilities, and ease of use. This model can provide students with a shared or individual multi-functional learning device 'in their own hands'.

- In a classroom setting tablets have the potential to **support differentiated learning**, where each student can **engage with learning activities**, using their own personal approach in a way that allows the whole class to be engaged in common activities, but where each student is engaging **at their own pace**.
- Where tablets are used by students, they may be used in a variety of ways. Students could work collaboratively in small groups sharing one or more tablets, or they may have access to their own device.
- Where students have access to computing devices in school **the balance of 'learner control'** shifts from the teacher to the student. This in turn can facilitate and support **student self-directed, active learning** and can facilitate higher levels of **motivation and engagement** in students.
- **Students adapt quickly to new technologies** and tablets are seen as attractive learning tools by students and have the potential to introduce more **engagement** and **fun into learning**. Students increasingly have access to tablets and smartphones outside of school, and so can adapt easily to their use in school.

Potential Challenges and School Readiness

Given that BYOD would be a significant new step for most schools, careful planning and consultation with all the key stakeholders, including teachers, parents, pupils, and the board of management (BOM) is critical to achieving successful outcomes. Because of every schools' unique situation, some schools may encounter significant challenges in implementing BYOD. As such **as a first step a school readiness review is recommended**. This review would assess school readiness from a number of perspectives. Some of the main challenges could include the potential barriers of inequality/digital divide issues, teacher readiness, having suitable wireless and broadband access, and having a suitable school Acceptable Use Policy (AUP) to support the introduction of student devices. As the situation regarding these issues is unique to each school it is important that the school consult with the key stakeholders as a first step.

Inequality and digital divide issues may exist, for example between middle and low income families as all pupils/students may not have suitable devices at home, and as such are areas which require a keen sensitivity in how they are addressed. Some families may feel under financial and other social pressures to be involved, and it is recommended that schools consider how it would handle a situation where some children were not in a position to bring a suitable device to school. Also following the introduction of BYOD some potential negative student behaviours may arise including comparisons between desirable 'top of the range' devices with other lower capability student devices. To help address these types of situations some schools have provided devices to certain pupils, or have a 'sharing of devices policy' in place, where pupils/students would work in pairs or small groups. Every school situation is different, so while BYOD may be suitable for some schools, or for some teachers, it may be seen as not appropriate for others, or might be seen as a possible option in the future.

Teacher Readiness – New Classroom Challenges

As BYOD is a relatively new concept for schools, there is no one 'template' approach which can be applied to deliver successful outcomes. Schools have taken different approaches which suit their individual situations. This diversity of approaches is being seen at both school level and at classroom level. In practice some teachers will adopt an approach to BYOD which they are comfortable with, and which is consistent with their current classroom management approach. Initially at least a large percentage of teachers will not feel ready to adopt BYOD, and this is not surprising. However there is increasing evidence to show that teachers that have used a BYOD approach, and following the initial teething issues, have seen positive learning outcomes. As more schools and teachers allow BYOD to be introduced to their classrooms, confidence will increase among teachers, and their readiness will increase.

Broadband Connectivity and BYOD

Schools considering BYOD need to have a reasonable quality of broadband connectivity to the school. The level and quality of broadband required to support student BYOD devices will depend on the numbers of staff and student devices being used, as well as the levels and type of usage. If a school is small and the number of devices is relatively low, then in general schools may be able gain some benefits. However if the school is larger and the number of devices being used is substantial, these factors will place a greater demand on the broadband connection, and this will most likely limit the users experience when using online resources. Pupils will most likely be using their devices both for accessing online content as well as using 'apps' to support learning.

If pupils are only using previously downloaded 'apps' or existing content on their devices the broadband connection is generally not being used as much as when pupil devices are being used to access online

BYOD for Learning

resources. In this scenario, even in schools where broadband may be relatively poor, schools may be able to gain some benefits, however in general introducing student devices/BYOD where broadband is poor, regardless of any other factors, could be problematic.

Connectivity to Wireless Networks

Tablets or BYOD devices connect wirelessly (ie. using wifi) and do not have a fixed network connector. This means that the school will need to have a **'fit-for-purpose'** wireless network in place, so that multiple tablets can simultaneously access the network or internet. As such schools should review the **section on Wireless Networks at www.pdsttechnologyineducation.ie/en/Technology/Networking-Wireless-Networks/** . In contrast laptops or netbooks can be connected either via wifi or via a fixed network connection.

AUP in relation to BYOD:

The school AUP in relation to BYOD will need to clearly outline the responsibility of pupils/students and their parents/guardians regarding student devices. For example the main responsibility for the device (including breakages, cost of repair etc.,) will not be the responsibility of the school. Instead in a BYOD scenario the AUP will need to clearly state that the responsibility will be with the pupil's family than with the school.

Schools may also be concerned regarding inappropriate use of student devices in school, and the current school policies/AUP may need to be reviewed to cover these situations. In practice schools need to expect that some incidents will occur, and ideally see these as potential learning opportunities by having appropriate processes in place to handle them. Two comments from schools that have experience with BYOD are:

"these are learning opportunities to help children understand what it means to live in this digital world they're going to live in for the rest of their lives"

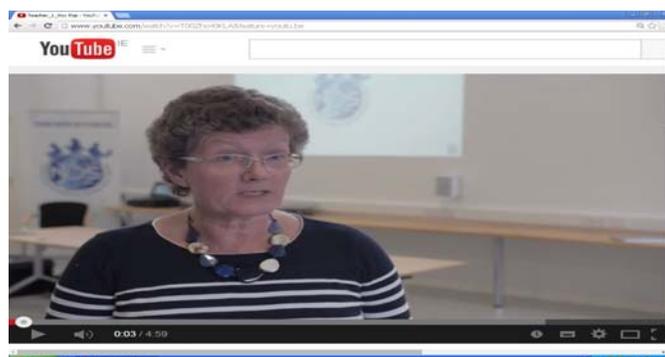
"Yes, it's risky, but it's riskier for us not to do this and then have kids try to figure it all out on their own. That's why we have to teach digital citizenship and responsibility."

Videos related to BYOD and Tablets in schools

The following videos highlight some relevant aspects of BYOD: *(Click on the links to play the videos)*

Introducing BYOD to a post primary school

Siobhan Greer, former principal of St. Louis Secondary School, Dundalk, talks about how BYOD was introduced into her school.



<http://www.youtube.com/watch?v=T0GZho49KLA&feature=youtu.be>

Using Tablet devices in a Primary School

School Principal Enda McGorman and teacher Declan Lally outline how tablet devices are being used to develop active learning for literacy and numeracy and demonstrate some active learning methods.



<http://www.pdsttechnologyineducation.ie/en/Good-Practice/Videos/Primary/#64065663>

Tablets in Mary Mother of Hope Junior National School

School Principal Alma Moran and a number of teachers highlight use of tablets with younger pupils



<http://www.pdsttechnologyineducation.ie/en/Good-Practice/Videos/Primary/#94673623>

BYOD in a Third Grade Classroom (Pasco County, Florida)

Sand Pine Elementary third grade teacher Nakita Gillespie is embracing Bring Your Own Device (BYOD) to engage her students.



<https://www.youtube.com/watch?v=C448acj-toc&list=UUg2EPgrZtxyZPdaprLgSqQ>

BYOD use at Centennial Middle School (Pasco County, Florida)

This video provides an overview of the BYOD programme at Centennial Middle School.



<https://www.youtube.com/watch?v=4622A1ag8eY>

Introducing Tablets or BYOD to a school:

When introducing tablets or BYOD to a school a range of approaches can be taken including:

- Introducing tablets initially for teachers in advance of students, so than they can become familiar with the tablet capabilities and develop confidence in their use.
- A small number of tablets are introduced per class for student use to facilitate group-work
- A set of 15 (eg. for pair work) or up to 30 devices are introduced as a shared resource to rotate among different class groups
- A number of tablets are provided ‘permanently’ to specific class groups
- Different approaches to BYOD models may be considered however devices generally need to be wi-fi enabled, have suitable battery-life, suitable screen, keyboard (including onscreen) etc.
 - Having the same device for all pupils/students
 - Having a limited set of devices (eg., allowing only suitable tablet devices initially)
 - Having a wider and more flexible range to devices (eg., also including phones)
 - Allowing a wide range of devices

BYOD AUP Template form for Schools

(This BYOD AUP template can be used or modified by schools to support their own situations)

BYOD Parent/Student AUP

Purpose:

The bring your own device (BYOD) programme involves allowing pupils/students to bring their own ‘mobile devices’ to school to support learning activities. In an effort to support student centered learning and allow students to take more control of their own learning, the school will allow students to use certain mobile devices in the school. Students and parents wishing to participate in the BYOD programme must accept the responsibilities stated in the BYOD Acceptable Use Policy (AUP) as outlined below, and must read, sign, and return this form.

Types of mobile devices allowed under this policy:

For the purpose of this program, a ‘mobile device’ refers to a pupil/student owned device such as a tablet, laptop, netbook, iPod touch, or suitable phone. Personal gaming devices are not allowed under the BYOD programme. The school decides on the type of allowed device.

BYOD Acceptable Use Policy (AUP) Summary:

1. Any pupil/student who wishes to use a personally owned mobile device within school must read and sign this AUP.
2. A parent /guardian of the pupil/student must also read, sign and submit the AUP to the school office.
3. Students take responsibility for appropriate use of their device at all times. The school is not responsible in any way for the device or for its’ use.
4. Students/parents/guardians are responsible for their devices, including any breakages, costs of repair, or replacement.
5. The school reserves the right to inspect or monitor student mobile devices during school hours.
6. Violations of any school policies or rules involving a student device may result in a student not being allowed continue using the device during school hours and/or disciplinary action, for a period to be determined by the school.
7. During school hours students are allowed use their device for learning related activities only.
8. Students will comply with teachers’ requests regarding use of devices during school hours, and classes.
9. Mobile devices must be charged prior to bringing them to school so as to be usable during school hours. Charging devices in the school is not an option.
10. Students may not use the devices to record, transmit or post photos or video of other teachers or students. No images or video recorded at school can be transmitted or posted at any time without the permission of their teachers.
11. Student may use the school wireless network and content filtered broadband. Use of other ‘unfiltered public wireless connections, such as mobile networks, is not allowed during school hours.
12. The school reserves the right to change the AUP in line with overall schools policy

Mobile Device Details: _____ (eg., Tablet – include manufacturer, type of device here)

As a pupil/student I understand and will abide by this AUP. I understand that any violation of this AUP may result in not being able to use my mobile device in school, and could mean other disciplinary action.

Pupil/Student Name: _____ (in capitals)

Pupil/Student signature: _____ Date: _____

As Parent/Guardian I understand that my child accepts the responsibilities outlined in the BYOD AUP. I have discussed the AUP with them and we both understand own responsibilities.

Parent/Guardian Name: _____ (in capitals)

Parent/Guardian signature: _____ Date: _____

Summary Practical Tips

- Planning, consultation and communication with stakeholders is critical
- Form a small team to coordinate the initiative, include key stakeholders
- Expect issues to arise, try and see these as learning opportunities and for process improvement
- Start small, possibly with two teachers working together, review before taking next steps
- Seek advice from other schools and teachers

Some other relevant BYOD/Tablet links include:

How BYOD Programs Can Fuel Inquiry Learning (US)

<http://blogs.kqed.org/mindshift/2014/01/how-byod-programs-can-fuel-inquiry-learning/>

Tablet Comparisons and Reviews

<http://tablets-review.toptenreviews.com/>

PDST Technology in Education CPD Courses

<http://www.pdsttechnologyineducation.ie/en/Training/>

<http://teachercpd.ie/>

Using iPads in the classroom for Coding, creativity and other subject areas (UK)

<http://www.theguardian.com/technology/2014/jan/27/tablets-schools-coding-kids-education-ipad>

How BYOD Programs Can Fuel Inquiry Learning (USA)

<http://blogs.kqed.org/mindshift/2014/01/how-byod-programs-can-fuel-inquiry-learning/>

Wikipedia

http://en.wikipedia.org/wiki/Tablet_computer

Apps for Special Educational Needs

<http://apps4stages.wikispaces.com/AppWheels>

http://www.callscotland.org.uk/Common-Assets/ckfinder/userfiles/files/Wheel_of_Apps_V1_0.pdf

Note: While this resource acts as a guide, the inclusion of any products and company names does not imply approval by PDST Technology in Education, nor does the exclusion imply the reverse. The PDST Technology in Education does not accept responsibility for any opinions, advice or recommendations on external web sites linked to the PDST Technology in Education site.

This resource and other relevant information are available at:

www.pdsttechnologyineducation.ie/technology