Computing Devices Guide for Schools

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Introduction

'Fit for purpose' computing devices for teachers and students are critical in supporting teaching and learning. It is important that teachers are equipped with devices that allow them to carry out activities to support teaching and learning outcomes that align with the school's Digital Learning Plan, but also devices that they are comfortable with.

Student devices need to support a wide range of activities that allow students to engage effectively in classes, in project work and other learning activities. Student devices need to be Wi-Fi enabled, mobile, robust and need to have long battery life, so that they can be used throughout the school day.

The most common devices currently being used by teachers in schools are desktop PCs, laptops, iPads and chromebooks. The most common devices being used by students in schools are iPads, chromebooks, and laptops.

iPad (iOS)
(Apple)

Chromebook
(Google)
(Available from
a range of suppliers)

Windows
(Microsoft)
(Laptops, Surface)
(Surface available from
Microsoft, Laptops from a range
of suppliers)

Hybrids
(Available from a
range of suppliers)
'Hybrid' devices

Digital Learning Planning and Framework (DLF)

Information on Digital Learning Framework (DLF) and how it can be used for planning to embed digital/ICT in into teaching, learning and assessment can be found at the Digital Learning Planning website https://www.dlplanning.ie/. The website helps schools improve digital learning, supports the Digital Learning Framework, mapping standards and statements of effective practice to good practice video exemplars. It helps school leaders understand how technology can support the learning process. In the same way as a school needs to have a Digital Learning Plan in place to guide their approach to teaching, learning and assessment, they should also consider having a Digital Technology Infrastructure plan in place so that their technology and digital infrastructure compliments and supports their Digital Learning Plan.

Considerations regarding Devices

When considering computing devices, as part of DLF school self-evaluation and planning process school management and the ICT coordinating team should first consider school learning priorities and learning outcomes rather than the technical aspects of devices. School digital learning plans should form an integral part of wider school planning.

The following points should be considered when reviewing how devices are used in school.

- Does the school Digital Learning Plan refer to how it is planning to use computing devices to support teaching, learning and assessment?
- Are current computing devices meeting the current teaching, learning and assessment needs in the school?
- Do some devices need to be upgraded?
- What aspects are working well?
- What aspects don't seem to be working as well as planned ?
- Are there changes needed in how devices are used, that could make them more effective and improve the experience for teachers and students?
- Is there a need for additional teacher professional learning or training in how to use the devices more effectively? Note that the Oide TiE provides a range of teacher professional learning opportunities, through its online courses, good practice videos, webinars, online learning resources and courses in Education Centres.
- Are there areas that the school needs assistance with, for example from an external party, either from a pedagogical or technical perspective?
- Has the school identified an external party who can provide support to the school?
- Engaging with other schools as they may be able to suggest ideas which may be helpful.
- A good way of initially seeing relevant good practice from other schools is to watch some of the Oide TiE good practice videos which show how schools are embedding ICT. These can be seen at https://www.oidetechnologyineducation.ie/videos/
- Oide, through its Digital Technologies team, provides tailored school support in the effective use of digital technology in the classroom, including planning for digital learning. Oide Digital Technologies Professional Learning Leaders are available to give in-school, online and sustained support to schools at both primary and post-primary levels. If a school needs to apply for 'School Support' during the school year, it can do so at https://www.oidetechnologyineducation.ie/courses-practice/schoolsupport/
- Free online courses are available for teachers and school leaders, so for more on this go to https://www.oidetechnologyineducation.ie/courses-practice/

Computing Devices and Blended Learning

As the use of 'blended learning' in schools increases, there is a related increase in the number of mobile computing devices being used by students in schools. The term blended learning in relation to teaching and learning is a mix of classroom or face-to-face learning experiences with online learning experiences. As teachers are increasingly using digital technologies to support and enhance their teaching, learning and assessment practices, the use of blended learning is continuing to grow.
For more on blended learning please refer to:

https://www.oidetechnologyineducation.ie/courses-practice/blended-learning/

Models of student access to devices in schools

There are several different approaches used by schools regarding how they provide students access to devices. The more commonly used approaches are shown below in Table 1 followed by some additional details on each of these models:

- Desktop PCs in Computer Rooms
- Mobile Trolley of shared student devices
- 1:1 Student Devices (standard device is chosen)
- Students bringing their own devices (BYOD)

Models **Criteria**	**Desktop PCs in Computer Rooms**	**Mobile Trolley of shared student devices**	**1:1 Devices (School or parent funded standard device**	**Bring Your Own Device (BYOD) Student brings their own choice of device**
Summary Description	Shared computer rooms of Desktop PCs	Device trolleys are used to charge, store and move devices within the school	Each student has their own device available throughout the day	Students allowed to bring and use their own devices
Advantages	• Fixed, robust desktops with large screens available for specialist tasks e.g. technology, DCG etc. • Dedicated computer rooms already present in post primary schools. • No set up time	• Increased student access to devices. • Cost effective compared to 1:1 • Flexible, can be shared across subjects. • Supports digital learning more cost effectively.	• Every student has consistent, immediate access to their device for projects etc., • Enables on demand access across all subject areas. • Standardised and pre-configured devices. • Students retain device after senior cycle. • Promotes students taking responsibility for devices	• Students use familiar devices. • Extends learning between school and home. • Reduces cost burden on schools. • Promotes students taking responsibility for devices
Challenges	• Limited device flexibility, fixed in computer rooms. • Require specific rooms, large monitors, more space, large keyboards. • Additional cost to fit out or upgrade computer rooms.	• Requires booking / scheduling. • Doesn't support on demand access across all subjects • Needs secure charging /storage. • Time lost moving, setting up for each class	• Additional financial burden on parents to fund 'package', including device, management & insurance etc., • May encounter resistance from some parents, inequity issues. • High quality IT support necessary	• Equity issues, not all families can provide devices. • Variation in quality /compatibility. • Needs strong policies and management. • Having external 'non managed' devices introduces a higher cybersecurity risk
Best Suited For	• Specialist computer labs, exams, need for larger screens. Schools requiring a more controlled environment	• Schools providing flexible, shared access for periodic use across subjects.	• Schools embedding digital learning into everyday practice across all subjects / years	• Schools seeking to accommodate existing student owned devices, schools prepared to manage BYOD challenges including cybersecurity and equity issues.
WiFi Implications	• No WiFi required in computer rooms as devices use fixed local network	• Good WiFi required throughout the school	• Good WiFi required throughout the school	• Good WiFi required throughout school. BYOD adds cybersecurity risks.

Table 1: Models of student access to devices in schools

As outlined in Table 1, Desktop PCs in Computer Rooms and Mobile trolley of shared student devices are well established and well understood models in post primary schools, while 1:1 Devices (school or parent funded standard device) and students bringing their own devices (BYOD) are more challenging models for schools.

Introducing either 1:1 or BYOD models represents a significant operational and pedagogical shift. Successful implementation requires careful planning and consultation with teachers, parents, students/pupils, and the Board of Management. As each school context differs, a school 'readiness review' is recommended to assess the issues related to educational outcomes, teacher readiness, infrastructure, equity, network security.

The 1:1 model provides each student with a consistent, school approved device, enabling a uniform teaching and learning experience. This approach reduces technical issues, allows standard apps and classroom management tools, and supports stronger cybersecurity through central device management. It improves equity ensuring all students have access to the same capabilities. It requires structured procurement planning, and ongoing management of devices, repairs, and device replacement as necessary.

The BYOD model may encounter additional challenges including:

- Difficulty for teachers to provide uniform instructions across mixed devices
- Compatibility issues whereby some apps and resources may not work consistently on devices
- Schools may be limited to platform neutral tools (e.g. Google Workspace or Microsoft 365), reducing access to specialised apps.
- Unmanaged personal devices risk introducing external malware and cybersecurity risks
- Equity where different types of devices highlight inequality between students. Schools could mitigate this by providing loan devices for students.

Teacher Readiness and Classroom Management

While both 1:1 and BYOD models introduce challenges BYOD brings additional challenges to teaching approaches and classroom management:

- Monitoring student activity is more challenging without standard management tools.
- Teachers may initially feel unprepared for increased distractions and technical issues.

Device Options

Selecting a suitable device for teachers or for students/pupils is a significant challenge for schools and again requires careful planning and consultation with teachers, parents, students/pupils, and the Board of Management. Table 2 provides a summary overview of some of the issues involved.

Characteristics	Windows Laptop	Windows Hybrid Device	iPad	Macbook	Chromebook	Android
Recommended for Schools	Yes	Yes	Yes	Yes	Yes	No**
Manufacturer(s)	Various	Various	Apple	Apple	Various	Various
Main Form Factor	Clamshell	Convertible	Tablet / keyboard	Clamshell	Clamshell	Tablet
Operating System	Win 11 Pro	Win 11 Pro	iOS	Mac OS	ChromeOS	Android
Instant On*	Varies	Yes	Yes	Yes	Yes	Yes
Long battery life	Varies	Yes	Yes	Yes	Yes	Yes
Wi-Fi enabled	Yes	Yes	Yes	Yes	Yes	Yes
Suitable for Teachers	Yes	Check	Yes	Yes	Yes	No**
Suitable for Students	Yes	Check	Yes	Check*	Yes	No**
Touchscreen Option	Yes	Yes	Yes	Yes	Yes	Yes
Digital Inking Stylus Option	Rare	Yes	Yes	Yes	Yes	Yes
Min Tech Spec available from Oide	Yes	Yes	Yes	Yes	Yes	No**

Table 2: Overview of most common mobile device options for schools

Instant On*	This means that devices power on instantly, unlike some devices which can take from approx' 20 seconds to minutes to be ready for use
No	'No' for Andriod means that Google (who own Android) do not have a Android Education program. Instead they recommend Chromebooks for Education
Long battery Life	Long Battery life means that devices are designed to operate throughout the full school day (Typically 7-8 hours), without needing to be charged
Check	Devices 'may' be suitable, but schools need to check that they have sufficient CPU power, memory, data storage etc.,
Check*	Devices 'may' be suitable, but may be too expensive an option for student devices

Good Practice Videos - using tablets in schools
The two videos highlighted below from the Oide Technology in Education website highlight relevant educational use of tablets in schools: (Click on the link to access the video)

Using tablets to support language learning (German)
https://www.oidetechnologyineducation.ie/videos/using-tablets-to-support-language-learning- German/

Using tablets to support active learning in Business Studies
https://www.oidetechnologyineducation.ie/videos/using-tablets-to-support-active-learning-in- business-studies/

Other Considerations:

Breakages and Accidental Damage

As tablets are mobile devices, they will be subject to the normal 'rough and tumble' of school life, whether they are being used only in school or whether they are also being taken home by students. It is inevitable that some breakages will occur. Damage to screens is one of the most common reported problems. In general screen damage is not covered by warranty and instead is covered under 'accidental damage' cover. Purchasing agreements from different providers may vary, so schools need to check these before selecting a provider.

Security and insurance
All new devices purchased by a school should be added to the school's insurance policy. As tablets are small and easy to carry and conceal, they can be an attractive high value target. As such they need to be carefully managed, especially if stored in the school during the week or at weekends.

Purchasing Considerations for Teacher and Student Devices
Before a school purchases computing devices, it is important that it is confident that the chosen device is the 'right learning choice' for the school. Seeking advice from similar types of schools that are already successfully using certain devices to enhance learning is an excellent way of getting relevant, up to date information. This could also be achieved by teachers evaluating devices in different learning situations or subject areas, sharing experience with colleagues both within the school and with other schools. Following this evaluation the school should have a more realistic expectation of the device capability and be in a better situation to make a decision. If a school places a priority on students having access to mobile learning devices, then it usually involves a choice between Windows laptops or hybrids, iPads, or Chromebooks.

PC & Laptop Framework: Schools can order PCs/Laptops from approved suppliers, without having to seek quotes from other suppliers for standard and higher specification versions of PCs and Laptops.

Technical and purchasing considerations link:
The following link provides relevant technical and purchasing details for schools for a range of equipment:
https://www.oidetechnologyineducation.ie/technology-infrastructure/technical-and-purchasing-considerations/

This Guide is available from the Oide Technology in Education website at:
https://www.oidetechnologyineducation.ie/technology-infrastructure/computing-devices/

Bring your Own Device (BYOD) AUP Template

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

BYOD Parent/Student AUP

Purpose:

The BYOD programme allows students to bring their own 'learning 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 learning 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 learning devices allowed under this policy:

For the purpose of this program, a learning device refers to a student owned device such as a tablet, iPad, Chromebook or laptop. The school decides on the types of allowed devices.

BYOD Acceptable Use Policy (AUP) Summary:

1. Any student who wishes to use a device in school must read and sign this AUP.
2. A parent /guardian of the student must also read, sign and submit the AUP to the school office.
3. Students are required to take responsibility for appropriate use of their device at all times.
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 devices during school hours.
6. Violations of any school policies or rules involving a student device may result in a student not being allowed to 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 must comply with teachers' requests regarding use of devices during school hours, and classes.
9. BYOD 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 WiFi 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 school policy.

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

As a 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 device in school. Additional disciplinary action may also be determined by the school.

Student Name: _____ (in capitals)

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: _____