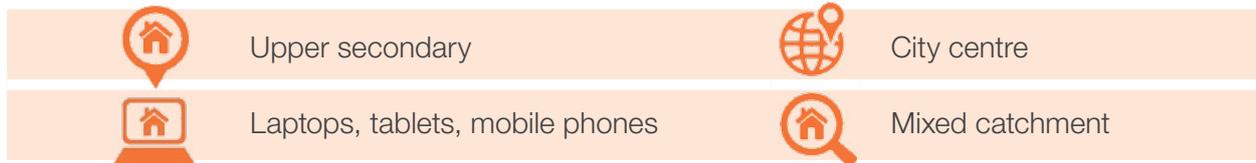




9.3. Assessment and a desire to reflect societal norms as drivers for BYOD in Finland

This case study looks at how digitising assessment and a desire to reflect the real world students live in are acting as drivers for BYOD in some Finnish schools



Background, context and drivers

The Finnish national Ministry for Education does not have a special policy on BYOD. However, the new core curriculum for schools gives guidance that students can be allowed to bring their own devices to school to support learning. The Ministry is aware that some cities have recommended that students at upper secondary school level should bring their own laptop or other device when they come to school. In primary and secondary schools there are few examples where BYOD requires students to bring a device. This is probably due to concerns that this may contravene the law stating that education must be totally free to all.

In Finland most schools are run by cities. Turku is a city on the southwest coast of Finland at the mouth of the Aura River. At upper secondary level in Turku students are told to bring their own device for use in school and the city is also encouraging primary and secondary school heads to allow students to bring their own device.

The drivers for BYOD in Turku are:

- all upper secondary students in Finland take final matriculation examinations and, over three years from 2016, digital examinations will be phased in
- the city wants 1:1 computing in schools but cannot afford to fund this
- students have mobile devices and want to use them in school

Kerttuli High School, a large upper secondary school in the centre of the city has been using ICT for 15 years and has a reputation for innovation, including encouraging students to bring in their own devices.

Unusually, Kerttuli offers specialist sports and ICT curricula as well as the general curriculum. It has 20 coaches in addition to 30 to 40 teachers. These specialist curricula attract students from across and

beyond the city. As the school is over-subscribed, they operate selection on the basis of academic or sporting achievements. This may make it easier for the school to make demands such as that students must provide their own computers for use in school.

An additional driver at Kerttuli is a desire to test a hypothesis (for which there is not yet any research evidence) that BYOD may contribute to improving the academic achievement of underperforming male students. Previous national research has found that in Finnish language boys typically achieve one grade less than girls, especially in written work. Typically in Finland approximately 50% of students go to vocational schools after grade 9 and the students who continue to High School usually include more girls than boys. However, perhaps attracted by the specialist ICT and sports curricula, Kerttuli attracts more boys; here 55% of the students are boys.

The mobile devices

In most Finnish upper secondary schools BYOD devices are laptops and mobile phones. Mobile phones are often preferred by students but seen by teachers as too small. Students are less concerned by screen size as using a mobile is so natural for them. There are occasional stories in the press about schools banning mobile phones but this is unusual and students can usually connect to school Wi-Fi with their own laptops, tablets and phones. In primary schools the devices used are more often tablets.

At Kerttuli in 2014 75% of students chose a laptop as their main BYOD device while 25% chose tablets. Most students also carry mobile phones and use them for some learning activities. The percentage of laptop users is expected to rise next year. Some students have complained that they were not able to do as much with their tablets as laptop users. Some expressed anger that

the school did not advise them to buy laptops rather than leaving the decision to them.

Funding arrangements

At upper secondary level in Turku schools students' families are expected to fund the purchase of a computer to use at school and for learning activities outside school. The city and schools purchase a small number of devices to be used by students whose families cannot afford to buy a device and to lend to students if their own device is forgotten or being repaired. The city provides broadband access for all schools. The schools order Wi-Fi hardware from the city and pay a monthly fee per Wi-Fi router.

Participation in BYOD

Turku's ICT in Education Centre, which trains and supports teachers in the pedagogical use of ICT, reports that in many upper secondary schools most students are not bringing their devices to school. They believe the reason for this is that teachers are not designing lessons that require the use of computers. In Finland teachers have a great deal of autonomy and cannot be directed to use ICT. They have to be convinced of the benefits and persuaded.

Advice, staff training and incentives

The ICT in Education Centre has continuing professional development (CPD) facilities in the city and also runs workshops in schools; 1,600 teachers participated in these last year. However, it can be difficult for teachers to arrange time away from teaching; so each school has one or two teachers who are paid to deliver weekly CPD lessons to their peers.

At Kerttuli all teachers have to use technology and so need to be ICT literate. Teachers don't have their own classroom; they bring along their laptop and link it to the systems and tools available in any classroom they are using. The school finds that there is a growing and on-going need for teacher training related to BYOD and the use of ICT for teaching and learning in general. BYOD introduces new questions, e.g. what software do we train staff to use in view of the different operating systems on students' devices.

Juho Airola, Deputy Head at Kerttuli says that the main focus of training needs to be, "how to use devices in a wise pedagogical way", and some subjects need special software which teachers must learn to understand, e.g. GPS for geography. He notes that,

"the life cycle of computers, and pedagogical tools, for example, whiteboards is three to five years". Furthermore, "the cycle is speeding up, so if you design training around a specific device then that training will be out of date when a new product comes along".

Technical support

In addition to the central city IT support centre, there is a technical service helpdesk in every school. These were initially very technically focussed but the ICT in Education Centre has worked to transform them to also provide advice and assistance regarding pedagogical use of ICT.

As the number and variety of student owned devices in schools increases, it is not possible for teachers to solve all the technical issues that may arise. Similarly, it will be increasingly expensive for school help desks to cope with the demand for support. Therefore, Kirttulin has tried to arrange for students to help each other. This is partly achieved by running "getting to know each other sessions and including in these sessions on getting your technology to work".

Benefits

At city level an identified potential benefit of BYOD is encouraging a move away from paper.

Both city and school recognise that, when students are able to use their own devices, the use of technology for learning is a much smoother, more comfortable and personalised experience. They have their own software that they are familiar with and their own bookmarks. Also, when students own a device and are responsible for it, they take more care not to damage or lose it. As a result of BYOD, Kerttuli expects to further reduce the number of computers the school buys, thereby saving on the cost of these.

BYOD can also extend the times when students can learn. Having their own devices means that students can potentially be learning more during school holidays, which include 10 weeks in summer and 5 weeks at Christmas. They may also be better prepared for real life, university and many work situations in which they will be responsible for their own ICT arrangements.

Challenges

BYOD is a big cultural change for teachers as they cannot continue to do what they have always done. It is easier if students all have the same device; if they do not, the teacher has to find ways to use ICT that everyone



can join in. This can cause problems as the teacher has to be very comfortable with the use of ICT. Also the rapid pace of technological change means that teachers cannot plan for the technology they will be using in three to five years. They can only really plan regarding technology for the next year.

The choice of software used by all students can be difficult and affected by external changes. For example, **Libre** office software is free, saving money for students and the school. It was also planned to be the platform for the digitised matriculation examinations. However, Microsoft recently announced free licences for their **Office** suite for all schools. Therefore, the decision regarding Libre needs to be re-evaluated.

At Kirttulin internet access is very open and increasing traffic may become a problem. This has led to discussion of whether some very high traffic websites should be blocked.

Some years ago there was city wide internet filtering, blacklisting of sites deemed inappropriate and blocking of high traffic services. However, the current consensus is that: high traffic should be catered for by improving the quality of the service; education on safety and appropriate use is better than blocking; schools should guide rather than limit use and they should reflect real life. Also, there will always be students who can find ways around restrictions and the few who “do stupid things” should be sanctioned individually.

Lessons learned

Jouni Paakkinen of the Turku ICT in Education Centre says that, “students should have online access whenever and wherever they need... we just renewed our whole Wi-Fi network in all schools; if there is a problem with capacity we will simply increase it”.

Kerttuli has learned that renovation of older school buildings needs to be well planned with ICT in mind, even if this is not always very easy. When a newly renovated building at Kerttuli first opened, the Wi-Fi network was not ready and this quickly demonstrated how vital adequate and reliable Wi-Fi is for successful BYOD. Public Wi-Fi outside of school also helps to maximise the benefits of BYOD; Turku recently upgraded their public Wi-Fi which now includes 3,000 hotspots in the city.

It is important to provide somewhere for charging devices and safe places to store them, for example during sports sessions. Kerttuli have been very surprised that some students have brought in very expensive devices, e.g. MacBooks costing well over 1,000 euros. They have also found the “digital natives” theory unhelpful. Whilst it may be true that most students know how to use

Facebook and YouTube, it is unwise to assume they know everything about ICT and providing a course on how to use your devices in school is very helpful to the students.

Staff training needs to include recent graduate teachers. It used to be the case that younger teachers were more accepting of technology than their older peers but this is not the case anymore. More experienced teachers seem better able to cope with technological change whilst recently qualified ones are still becoming comfortable with the job and their subject and are least likely to use technology.

City level reflections

Jouni Paakkinen says that, “teachers need the courage to experiment and a passion for using ICT and then together with the students they can find meaningful ways of using the BYOD devices. If students are only using the devices for making notes, this doesn’t add much.”

A teacher’s advice to other schools

Juho Airola says:

- “its hard work, it doesn’t just happen, you need to plan and you need to advise your students.”
- “Internet must be very good, that is fast and reliable, or don’t try it.”
- We must give students responsibility for their machines – they must “sharpen their own pencils.”

Looking to the future

Digitisation of the matriculation exam is really guiding and forcing change and all schools will have to adapt and change.

In five years students will arrive from lower secondary more ICT literate, and come from homes in which ICT

is being used much more frequently. As a result of this, schools will need to provide less ICT induction. Students will be able straight away to concentrate on their subjects not the technology. This is likely to be helped by a new lower secondary curriculum which includes more emphasis on ICT.

Juho Airola believes that, “schools are currently waiting for school books 3.0”. Students at upper secondary level traditionally buy their own books and, whilst eBooks are

getting better, they are not yet good enough to take over from paper. Even without BYOD, he predicts a move away from textbooks as, “it will be best for students to develop their own [personalised collections of relevant learning resources] rather than using books that are used briefly and then thrown away. This is something which BYOD will support and the resources could be available and of on-going use beyond school”.



9.4. Engaged and informed school leaders drive transformation in Ireland

This case study considers the example of an engaged, informed and innovative school principal in Ireland leading implementation of BYOD in his school.

 Secondary, upper secondary	 Semi-urban
 iPads	 Mixed catchment

Background, context and drivers

There is no national BYOD policy in Ireland, although the Department of Education and Skills (DES) is due to release a new Digital Strategy for Schools in 2015 which will make reference to BYOD. The general approach in Ireland is for the government to provide support and *advice* to schools in the area of ICT integration, which includes strategies such as BYOD. Ultimately the decision making takes place at school level. This support and advice for schools is mainly provided through the *PDST Technology in Education* support service which is funded by the Department of Education and Skills.

Confey Community College is a state school for 750 students aged 12-18 about 20km from Dublin in Leixlip, an attractive and fairly prosperous semi-urban village which is also the location for a very large Intel manufacturing facility. Of the socially mixed annual intake of students, typically a small percentage are from disadvantaged families.

The main driver for BYOD in Ireland is probably the limited funding at school level to purchase technology. It may be the only way some schools can implement a 1:1 policy or integrate ICT. Also, students’ devices are generally more up to date than those provided by schools.

The mobile devices

In 2012, the school’s local Education and Training Board (ETB) provided funding for iPads and training for teachers and BYOD started in the 2012/13 academic year.

The school specified devices have to be iPad 2 or above with a camera but no 3G. iPads were chosen mainly because of the large number of apps and eBooks available for them at the time the BYOD initiative was being planned. A tablet with a keyboard was considered but rejected as it was €100 more expensive. The school also decided to rule out “pure BYOD” involving students bringing any device they owned. This was perceived as being potentially problematic. The Principal wanted teachers to be familiar with and be able to use all the devices students would be using in class and this is easier to achieve if they are all using the same device.

Funding arrangements

Parents are asked to buy iPads for first year students starting at Confey along with a selection of eBooks instead of textbooks. Parents have found this acceptable as Irish parents are already expected to buy textbooks for their children and because many were concerned about the weight of the school bags their children were