



## 9.6. Policy makers’ support is needed for teacher led innovation to grow in Portugal

This case study involving two schools in Portugal shows how individual innovative teachers can influence others but, without policy support, progress is slow.

 Primary, lower secondary	 Suburban
 Smartphones, tablets	 Middle class/upper middle class

### Background, context and drivers

Carlos Gargaté School is a public primary and lower secondary school teaching students from 5 to 15 years of age. It is a suburban school in greater Lisbon near the sea and most of the adult residents are commuters. It is an economically strong area; most students have good homes, some with swimming pools, although since the economic crisis there is some unemployment.

Teresa Pombo works for the Ministry of Education as a project coordinator. She is also a researcher and teacher trainer who teaches Portuguese language at Carlos Gargaté. She is the first teacher in her school to try BYOD. Her work in this area is an experiment supported by the School Pedagogical Board for three years with the aim of gauging what schools need to do to introduce BYOD.

Carlos Amarante school is a public vocational secondary with elementary classes and adult night classes. It is a big school in the centre of the city of Braga which achieves good results in national exams. Most students live near the school but some students travel in to the school from the countryside and some vocational students live outside the immediate area in places that do not offer the courses they require. As a result of the economic crisis, some students and their families have financial difficulties.

Adelina Moura is a teacher and educational technology teacher trainer in the in-service training of teachers. She teaches Portuguese and French languages and is the only teacher in Carlos Amarante school using BYOD.

### The mobile devices

Most Carlos Gargaté students have their own mobile phone or smartphone, and a laptop. Some also have a tablet, portable gaming device and/or handheld media

player. However, Portuguese law dictates that students cannot use their own devices in school unless they are involved in an approved teaching project.

All Adelina Moura’s students at Carlos Amarante have a smartphone, tablet or laptop which they bring into school. The school also has 10 tablets which are available to lend to students.

### Funding arrangements

Students in Teresa’s and Adelina’s classes are permitted to bring into school devices they already own; so, funding is by students’ families. The Ministry of Education provides broadband and Wi-Fi services.

### Participation in BYOD

The official project at Carlos Gargaté is very small, involving just Teresa Pombo’s class of 21 students from 7th to 9th grades (12 to 14 years old). However, there is evidence that some unofficial use of BYOD is starting to occur in other teachers’ classrooms.

At Carlos Amarante about one hundred 14 to 19 year olds are involved in BYOD with just one teacher, Adelina.

### Advice training for teaching staff

Teresa provides some training to her fellow teachers and provides examples that others can follow. Adelina provides training workshops for other teachers but, as the teachers who attend do not immediately put what they have learned into practice, she feels very little progress is made.



Portugal has good internet access following a 2009/10 initiative on infrastructure and many teachers already use internet and video in the classroom. However, if BYOD was used in all classes, the broadband would not be able to cope with so many concurrent users.

At Carlos Amarante lack of bandwidth is a big problem which damages students' motivation as response times are so slow.

In order to carry out her research in Carlos Gargaté, Teresa had to apply to the ministry for a special additional line to be installed in her school.

Most teachers in both schools are not very ICT literate. They use interactive whiteboards and PowerPoint but many still have a very didactic approach to teaching.

Adelina has found that it can be difficult to interest school management in the use of ICT for teaching and learning, including BYOD, if they perceive their existing traditional approach to teaching to be successful. In this situation they may not feel motivated to attempt culture change.

## Benefits

Students are very involved and motivated when using their own smartphones for learning. Motivation is particularly important for the vocational students, many of whom do not like school or learning. Adelina has found that these students enjoy doing project work using their mobile devices, which they say is less boring than traditional lessons, and are pleased when they get good marks.

BYOD means students can be more active in, and more in control of, their learning activities. The teacher designs the tasks which the students carry out, learning through exploration and enquiry. The teacher's role is more concerned with briefing students and then resolving issues.

## Challenges

The law banning students from using their mobile devices in school is currently a major obstacle to BYOD. Teresa needed special permission from the school director and the pedagogical council before she could start.

The teachers who are innovative and trying to update their teaching sometimes have their efforts derailed by external actions. For example, the Ministry department responsible for technical aspects of the school's portal blocking:

- Facebook and YouTube in the mornings, in order to reduce overloading of the service. This was a problem for teachers who had designed learning activities using these tools and whose classes take place in the morning.
- Access to app stores within the school. As a result, the librarian at Carlos Gargaté has to take tablets home to install apps.
- Websites related to computer games, thus preventing teachers from researching the use of educational games.

Clearly the Ministry department has the best of intentions. A problem, which almost stopped the project, was some parents complaining that they had heard students in school were accessing inappropriate websites. Although the school Wi-Fi has Ministry filtering, this did not prevent the problem which seemed to have arisen due to internet access via mobile networks not controlled by the school. This seems to be an issue best addressed by citizenship education.

Adelina has found that some parents become worried when students are preparing for a final examination. They worry that students may not be being prepared properly if they are using technology rather than books. Her advice to teachers is to talk with parents and encourage students to talk at home about what they are doing at school. Most parents are happy when they understand that mobile devices can help with learning.

### Lessons learned

The way to make sure students concentrate on the task, and are not tempted to look at Facebook instead, is to build learning activities that are very student centred so that they are not bored. However, familiar systems and apps can be used to support learning and students enjoy this. Adelina's students engaged far more with analysing poetry when they worked collaboratively using Instagram and SMS to share thoughts, comments and pictures.

A great deal of thinking and planning is needed in order to gain the most benefit from the use of BYOD devices. This implies significant changes in teaching practice which needs to be more student centred. However, most practice in the schools is currently still very teacher centred.

BYOD cannot be successful if teachers are not well prepared, trained and supported. A previous Portuguese tablet project had problems as teachers did not get the time to prepare as originally planned and, therefore, were not well prepared or happy.

When teachers realise the potential benefits of using students' devices they are often willing to work very hard to make a BYOD initiative successful. Teresa gives an example of one teacher working until 3am in order to prepare a lesson using Google Earth. She notes that, with training and experience, less time was needed to prepare future lessons

### Evaluation and impact

At the end of the three year experiment Teresa will share her findings with the Ministry, school management and the pedagogical board.

Meanwhile, Teresa has discovered that her students go to other classes and share what they are doing with other teachers. When this happens, other teachers are unsure whether they should allow the students to use their devices or not. However, some teachers do decide to allow students to make use of the devices in their class. Teresa says, "the science teacher has said yes, bring your laptops to the classroom; it's like an epidemic, it infects other classes and spreads and spreads".

There is no global evaluation of BYOD at Carlos Amarante but the outcomes of some of Adelina's experiences with BYOD devices in recent years are published online. Adelina's observation is that a set of tablets has been available for teachers to use for two years but only two teachers have taken advantage of these. Also, other teachers have not followed her example and allowed BYOD. Her fear is that, without intervention and encouragement from the government and school management, very little progress can be expected in the next few years.

### Advice from teachers to teachers in other schools

Teresa advises: "Involve parents – it is impossible to start without parents". They need to agree to BYOD and to allow their children to access the internet at home for learning activities. Update parents on why mobile devices and the internet are useful for teaching and learning and share lesson plans with them. "Start small, with one or two teachers, monitor, share with other teachers and grow the good practice". However, "teachers will not be interested if the internet is slow", so good technical infrastructure is vital.

Adelina advises "experiment, trial and error is good. Try, and, if it doesn't work, try something else ...we need to find out what are the good tools and the good practices" and also "don't be afraid to learn with and from your students and to ask for help when you need help. Sometimes I don't know how to resolve a technical problem, so I ask my students".