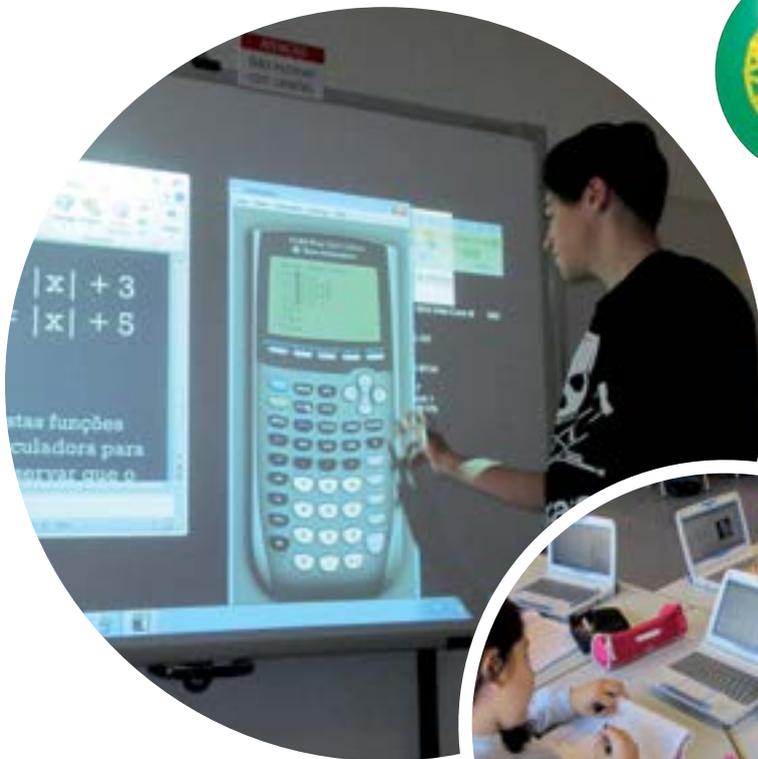




Living
Schools
Lab

Observation Case Studies

Portugal



Introduction

With the participation of 15 partners, the two-year Living Schools Lab project promoted a whole school approach to ICT use, scaling up best practices in the use of ICT between schools with varying levels of technological proficiency. Visits to the project's Advanced Schools in 12 countries were carried out to observe school's best practices leading to a report and recommendations on developing and mainstreaming of whole school approaches to ICT.

In addition to this, twelve case studies present the evidence gathered as part of the school observation visits to two Advanced Schools in each of the 12 countries: Austria, Belgium, Cyprus, Czech Republic, Finland, France, Ireland, Italy, Lithuania, Norway, Portugal, and the United Kingdom. Alongside the case studies, each Link Observation Visit was detailed in a blog post, along with useful links and practical ideas to try in the classroom: <http://lsl.eun.org/observation-visits>.



A framework of eight main questions was used to develop the case studies:

1. What types of technologies and resources are available in the Advanced Schools?
2. Are there recent national initiatives that have had an impact upon whole school development of ICT?
3. Who leads the decisions about the development of ICT?
4. What types of training and professional development are available to teachers?
5. How is ICT being used in different subjects?
6. What kinds of research and development are the teachers engaged with?
7. Are the Advanced Schools engaged in any partnerships or networks?
8. Are there particular areas that could be mainstreamed or replicated?

All case studies contain information that has been reviewed by National Co-ordinators. The studies outline evidence gathered as part of the Link Observation Visits and throughout the Living Schools Lab project. Further information is available on each school website about the individual school, although this may be in the home language.

All of the school visits were undertaken by Diana Bannister MBE, University of Wolverhampton. These case studies should be read in conjunction with the project's Link Observation Visits final report available at <http://fcl.eun.org/lsl>.

Observation Case Studies: Portugal

June 2013

Escola Básica Parque das Nações | Lisbon | Portugal

Number of students	255 (+100 Pre-Primary)
Age group of students	6-11 years
School website	http://www.queiroz.pt
Name of principal	Filomena Vitorino (Head of School)
LSL project Lead Teacher	Sandra Silva

Escola Secundária Eça de Queirós | Lisbon | Portugal

Number of students	1047
Age group of students	12-18 years
School website	http://www.queiroz.pt
Name of principal	Maria José Soares - Director of the Group Escolas Eça de Queiros
LSL project Lead Teacher	Maria Teresa Godinho





1. What types of technologies and resources are available in the Advanced Schools?

Until 2010/2011 the Portuguese government implemented a programme, “e-escolinha”, which had the purpose of introducing computers in the 1st cycle and encouraging Internet access for students from 1st to 4th grade. Through this programme, each student of the 1st cycle could get a Magellan computer for a very small amount of money. As the project ended in 2010/2011, only the students of 3rd and 4th grades in the primary school have their own Magellan computer. However, the school has purchased more Magellan computers for the younger students to use.

In the secondary school, the staff and students have access to a wide range of technologies. All classrooms are equipped with a computer and a video projector. One third of the classrooms have an interactive whiteboard. The school offers 7 rooms equipped with 14+1 computers for classroom use. Any teacher may request a computer room to teach a class. There is a broadband access throughout the school open to teachers, students and staff. Everyone can access the wireless network anywhere in the school. One of the broadband connections is provided by the Ministry of Education, another one is supplied by Zon¹ and is a committed network that allows a Virtual Private Network (VPN) connection with the other schools in the cluster. In the Advanced Secondary school in Portugal, the lead teacher recognises that in the last

ten years the level of technology within the school has significantly changed. Ten years ago, the school had approximately one computer to five students, but today there are at least 300 computers.

The school has a library equipped with 8 computers and a social space (leisure lounge) with 10 computers where students have free Internet access. There are also two study rooms; one of them is equipped with 6 computers where students can work autonomously.

The school has implemented a student management system which allows students and parents to check absences and classifications online as well as students’ access control. This means that students access the school via magnetic cards and make payments using their card for transactions in school, eliminating the use of money.

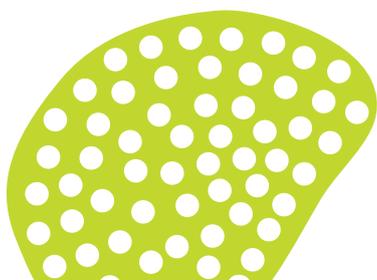
The whole school community, teachers, students and staff have an official email used to send information to parents or to any other member of the school community. The Moodle platform and email are used to support students’ learning beyond the school day.

There is support from the management board of the cluster of schools to try to sustain and improve the standard of technologies available.

2. Are there recent national initiatives that have had an impact upon whole school development of ICT?

In Portugal the teachers have a national agency for ICT called Direção-Geral da Educação (DGE)² funded by the Ministry of Education. The agency provides advice and support for schools to make use of technology. DGE is also involved with a

range of European projects and actively works with schools to encourage them to participate. There are also nine competency centres that provide support and training to schools.



1 www.nos.pt
2 www.dgdc.min-edu.pt

3. Who leads the decisions about the development of ICT?

Both of the Advanced Schools identified to work on the Living Schools Lab project were already part of a cluster. There is an ICT co-ordinator who is responsible for the technical infrastructure across the cluster, the purchase of new equipment, the training of staff and the daily technical support.

However, there is a management board across the cluster and this is where the decisions are made

about the development of the use of technology within learning and teaching.

The school Eça de Queiroz provides a comprehensive educational offer and training that includes 3rd cycle (12-14) and secondary education (15-17), regular or vocational, including Adult Training Education, which allows for the development of a common educational project in several levels and cycles of education, ensured by a joint horizontal and vertical curriculum.

4. What types of training and professional development are available to teachers?

In Portugal there are training centres where teachers attend compulsory Continuing Professional Development (CPD). Individual training is paid for by the teacher, and this can cost approximately €110 for 50 hours. Teachers have to undertake 25 hours of CPD per year, but this is across all the different areas of the curriculum. There are nine ICT competency centres that are available to schools across Portugal, but these are not accessed by all schools. Some schools prefer to provide their own training. Teachers easily follow recommendations for training in ICT. However this training is expensive, making it very difficult to access training that is not strictly necessary for their assessment.

Training classes were established for all teachers across the cluster and since 2009/2010 they have been available in the following areas: interactive whiteboards, Moodle platform, e-learning, all kinds of access to the services provided by the school, setting up an official email, school Web page, acquisition of several interactive features (educational software) – “virtual school”, promoting the use of technologies linked to Google Apps for education, especially virtual pen. Alongside this, teachers are actively encouraged to promote best practice. Throughout the year the school asks the ICT lead and a primary teacher to provide additional on-going support.

5. How is ICT being used in different subjects?

The students have a competency based curriculum for their age and stages of learning.

The teachers are making use of technology across the curriculum. However, at present, the students in the primary school who have access to their own device are only allowed to bring it to school on certain days of the week. The teacher decides when and how the students can use the technology.

In the Advanced Primary school, as all students of the 3rd and 4th grade have computers at home, the teachers of these classes have adopted the official national curriculum and established the use of ICT in their lesson plans.

Students have installed pedagogical games in the areas of Portuguese language, mathematics and study of the environment on their computers, which allows them to do a self-assessment of their knowledge.

In the secondary school, it is now expected that the teachers' resources are available in a digital format. The school uses software called AB Tutor³ in the computer rooms, which allows the teacher to manage or control the student's computer and guide the students through their tasks as appropriate.

Teachers retain their autonomy to be able to use a range of platforms with the students, though it appears to be common to all teachers to communicate with the students via email and to provide access to the main content of the lesson via Moodle. There are also ebooks available across a wide range of subjects. Every student has an official email and a virtual pen. Interactive whiteboards, emails, and virtual communities, namely Facebook, are used.



In Geography, the teachers use a range of applications including interactive maps, the National Institute for Statistics, and the school's Moodle VLE to enable the students to access a range of resources and lesson materials.

In Biology and Geology, the teacher uses the microscopic camera and visualization software.

During the observation visit, the Psychology teacher demonstrated his use of Facebook with the students to provide access to resources, but to continue the dialogue beyond the lesson. The teacher has agreed to communicate with the students in the evenings by use of Facebook, but not at weekends. In this way, the students know that there are limits to when they can expect a response from the teacher. The teacher says "It's a matter of setting the guidelines, the boundaries for students."

In Mathematics, the teacher uses a digital graphing calculator to demonstrate to students how to build graphs, tables and statistical calculations. The teacher is able to make use of the interactive whiteboard to demonstrate examples and invite the

students to show their strategies for solving a problem. There is an interactive version of the textbook which enables the students to see the exercises and figures/shapes immediately available to them; there is consequently no need to write them on the board. During the observation visit, the mathematics teacher readily interchanged between the various different resources available to her to teach the students about co-ordinates.

In Philosophy the teacher has organised almost all the syllabus of the 10th and 11th grade in PowerPoint files and makes use of the digital textbook for the subject. This means that the students do not have to bring the textbook to school as the teacher makes the digital version available to the whole class.

In Art, one of the teachers has created a number of blogs to exhibit the students' work. Students can view work in progress and completed work. The teacher can provide access to information beyond the lesson time, including information about techniques and materials. The teacher uses this method to encourage the students to comment on topics and share ideas. It enables the teacher to present a range of multimedia resources. The

3 www.abtutor.com

teacher has identified the importance of students being able to access virtual museums and generally uses a digital stimulus rather than books when working with the students.

The Advanced Secondary school provides a robotics club for the students that is organised by one of the teachers. At present there are ten students who attend the club. This enables those students to cover subject content from science

and technology. It provides an introduction to programming language. Students begin the practice of robotics with LEGO kits. The school has been awarded several prizes in the National Festival of Robotics.

EçaTV⁴ (cluster internal TV) plays an important role in spreading the activities that take place inside the cluster and in the promotion of good pedagogical practice.

6. What kinds of research and development are the teachers engaged with?

Across the cluster, the schools are involved with various development projects working with a range of partners.

- Plurália project (Comenius project)
- International Conference of Innovative Teachers – organized by Microsoft

- EçaTV and the Robotics Club are ongoing projects within the school.

The cluster regularly seeks opportunities to showcase the school in the use of ICT with visitors from all over the globe. These institutional visits have been promoted and supported by DGE within the Ministry.

7. Are the Advanced Schools engaged in any partnerships or networks?

In the primary school there is a workstation called “KidSmart Learning Center” (computer equipment properly protected for the age group) that has an integrated coloured module with cutting edge IBM technology, educational software and a guide for preschool teachers.

The KidSmart⁵ project was created by IBM in partnership with institutions responsible for education around the world (Ministry of Education). The aim was to provide all children in situations of isolation or social and economic disadvantage, with contact with the new technologies, facilitating their use and making equitable learning opportunities for children in preschool. The project began in the United States and is currently spread in more than 30 countries around the world.

The installation of workstations in Kindergartens which fulfilled the requirements of this idea, began in 2004 in Portugal. The protocol between IBM

and the Ministry of Education allowed the selection of this school and the donation of the respective workstation, contributing to the development of the Information Society and Knowledge through the promotion of “e-inclusion”.

Within the agreement with IBM, The Ministry of Education has promoted training for adequate use of KidSmart Programs, to preschool teachers who received the station.

In the Basic School Parque das Nações, the KidSmart station is in its 2nd year of use. It was determined by the team of preschool teachers that the station would be in each room for two months. Although only two of the preschool teachers have received training from ERTE⁶, all teachers were then integrated into the learning provided for the use of this station and new technologies. A blog is available giving an insight into use of the equipment⁷.

4 www.youtube.com/user/TVagrupamentoECA
5 www.kidsmartearlylearning.org/EN/

6 ERTE: Equipa de Recursos e Tecnologias Educativas (DGE unit of educational resources and technologies)

7 <http://gavotasnailha.blogspot.pt>

The school has also participated in an eTwinning project with schools in the Czech Republic, Portugal, Poland, Lithuania and Hungary. Entitled “An Apple”, the project enabled the students to share culture and customs across the different countries.

The secondary school leads a number of partnerships across the cluster of schools. The cluster works with Microsoft and was invited to present at a national “Innovative Teachers” conference with over 300 participants.

The school is involved with a European and national project called Youth Parliament and EUROSCHOOL which identifies a number of winning schools in each country every year. This has led to the school developing several initiatives including:

- a) Closed group on a social network (Facebook), where in a “Learning Community” everyone involved (students and teachers), debates and produces materials. An example is “The Travel

Book to the European Parliament in Strasbourg” (November 2012).

- b) *Companheirismo Europeu* Internet blog⁸, open to the public is the presentation of texts, files, videos, photographs (the vast majority consisting of work done by the group participants). The blog wishes to promote interactivity among parents, teachers, other students and the general community.

The Advanced Secondary School is able to show that they have been participating in several Comenius projects.

Across the cluster, teachers have participated in the Microsoft Innovative Teachers programme.

The lead teacher believes that working with commercial partners enables the sharing of knowledge, e.g. Microsoft offered training in e-safety for teachers and students on the international Safer Internet Day.⁹

8.

Are there particular areas that could be mainstreamed or replicated?

- Students in the primary school have access to 1:1 devices, but currently only use them on certain days of the week. This could be increased to allow the students to have continual access.
- The schools work together as a cluster to provide training and technical support with a regular set of courses always available at the start of the school year.
- The cluster of schools participate in European projects to enable the sharing of knowledge.
- Ensure staff and students are involved in the Safer Internet Day and access resources about e-safety.



⁸ <http://companheirismoeuropeu.blogspot.pt>

⁹ www.saferinternet.org/safer-internet-day

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Author Diana Bannister MBE
University of Wolverhampton
reviewed by National Co-ordinators for the LSL project

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Belgium

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