Portugal

Country Report on ICT in Education

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1 THE EDUCATION CONTEXT

1.1 EDUCATION REFORM

The educational priority set by the Government is to raise the level of training and qualification of the Portuguese population, through an integrated policy for valorisation of state schools.

Thus, placing the state school at the service of students and their families and reducing inequalities in access to training and knowledge have been the main goals of the Government, implemented through the following objectives:

- To promote educational success, putting schools at the service of student learning;
- Modernising schools, creating better working conditions for teachers and students;
- Inculcating the culture and practice of accountability and assessment in the education system;
- Opening the school to the community, strengthening leadership, promoting the school’s autonomy and improving its running, through greater participation by families and communities in the schools;
- Broadening learning opportunities throughout life.

Of the various measures taken, the following stand out for their relevance and impact:

- Full-time school, with the offer of free and comprehensive English and other curricular enrichment activities for all children of primary schools;
- The diversification of the offer of training to elementary and secondary level with the creation of vocational training courses and education and training courses in state schools, tripling the number of students in vocational courses;
- Enlargement of School Social Support, tripling the number of children covered;
- The physical and technological modernisation of schools and the generalisation of the use of computers and the Internet in educational activities – an objective clearly visible in the supply of schools with 310,000 computers (reducing the number of students per computer from 16 to 5), 9,000 interactive whiteboards, 25,000 projectors;
- The internal and external evaluation of schools, covering more than 700 schools;
- The new model of school management and transfer of competences from the MoE to schools and local authorities, ongoing throughout the country.
- The extension of compulsory education up to 18 years and the extensive pre-school education free for all 5 year-olds, showing, in a structured way, the government’s efforts to improve the qualification of the Portuguese and the growth of educational equality.

The various reforms carried out in various key areas of education have contributed to the fulfilment of the main goal of the government, of ensuring an improvement in the average quality of human, physical, organisational and curricular resources available to the educational community, independently of their geographical location and with a view to reducing school inequalities.

Improved efficiency in the organisation of schools, new leadership, and schools better oriented towards students and their families, more students and better outcomes, less dropout and less school failure is what we find today in our educational system.

In addition to the above, we can still find in our educational system some strong causes for concern in several areas. The education reintegration of students at risk of leaving school is the basis of the renewed TEIP (Educational Priority Intervention Areas) Programme, which aims to promote the educational success of students in specific socio-educational contexts. The opening of the school community is necessary to find balanced ways of regulating public education oriented to respond to local specificities.

With the modernisation of secondary school education, which started in March 2007, the school buildings will be able to be used by the community in activities related to after-work training, to cultural and social events, providing services, sport and leisure, in after-school or extracurricular schedules, generalising the good practices of some schools.
Thus, New Opportunity Centres have been created in 195 schools (see point 2.2), in which about 286,000 adults are registered. Courses have been created for Teaching Portuguese for Foreigners in after-work schedules in 125 schools in the areas of greatest immigration, covering more than 6,000 adults.

A new system for assessing teacher performance in schools was launched in 2008. The main goals were (1) to improve educational practice and the quality of teaching and (2) to enhance the socio-professional status of teachers, through the differentiation of merit, with direct relevance to career development.

Also the new model of school management and administration provided the opportunity to formalise and qualify the participation of local institutions and individuals in the strategic orientation of schools. The position of school director, which aims at strengthening school leadership, was created. The Director is entrusted with the administrative, financial and educational management. By the end of the academic year 2009-2010 directors will be elected in all schools.

1.2. KEY CHALLENGES /PRIORITIES FOR EDUCATION

To achieve the goals mentioned above (see point 1.1) several initiatives have been undertaken. Thus the top priorities for education currently addressed in our country, as far as curricula are concerned, are: Mathematics Action Plan, National Programme for the Teaching of Portuguese (PNEP), Primary School Teacher Experimental Science Training Programme and, as far as ICT goes, the Technological Plan for Education (PTE).

MATHEMATICS ACTION PLAN

In June 2006, taking into account the assessment made by teachers of mathematics and reflection on the results of the Mathematics 9th grade in 2005, the MoE set out an action plan for mathematics.

This plan aims mainly at improving the teaching of mathematics through six actions, namely:

- To implement the Mathematics Programme: teams for success (consists in supporting specific school projects aimed at improving mathematics results).
- To promote in-service training in mathematics for all teachers from primary to lower secondary school level (1st to 9th grade).
- To set new conditions for initial teacher training and access to teaching.
- To carry out adjustment of the mathematics curriculum and specifications and teacher training.
- To create a database of educational resources for mathematics.
- Assessing the textbooks of Mathematics for Basic Education.

NATIONAL PROGRAMME FOR THE TEACHING OF PORTUGUESE (PNEP)

The National Programme for the Teaching of Portuguese (PNEP) was created in 2006-7, to meet the challenge and the need to improve the teaching of Portuguese in the first cycle of basic education, particularly in reading comprehension and oral and written expression.

After the first year of training, 108 resident trainers are currently developing training in their groups. We are now in the second year, foreseeing about 290 future trainers. The programme also includes a focus on monitoring, with the collaboration of Higher Education institutions.

Portuguese as a second language

Within this programme and to promote integration, the MoE has drawn up an action plan to meet the needs of about 80,000 students of other nationalities who attend Portuguese schools.

The first step was to establish a new system of equivalences for foreign qualifications, to clarify, simplify and expedite the examining process, at the same time strengthening school autonomy (Decree-Law 227/2005).

The adoption of this law comes as a response to the need to create mechanisms that allow the integration of students from other educational systems into the Portuguese system.

The second measure requires the development of activities of effective support for students who have Portuguese as a second language.

Students with Portuguese as a second language will be included in three groups of language proficiency –
beginner, intermediate and advanced – depending on the result of a diagnosis.

Students who are beginners or intermediate will be granted a block of 90 minutes for the activities to be undertaken in Portuguese as a second language within the non-subject curricular areas.

Students at advanced level are considered proficient in the Portuguese language, which allows them to follow the national curricula. The school can also develop enrichment activities in the Portuguese language as a second language.

EXPERIMENTAL SCIENCE – TRAINING TEACHERS PROGRAMME

The purpose of Education in Science, as part of the overall educational experience of all young people, is to prepare them for a full and satisfying life in the world of the twenty-first century. More specifically, the science curriculum should:

- Encourage enthusiasm for and interest in science so that young people feel confident and competent to engage with scientific and technical subjects.
- Help young people to acquire a broad general understanding of important ideas and explanatory foundations of science and procedures of scientific inquiry which have the greatest impact on our environment and our culture in general.
- Facilitate the deepening of knowledge when it is necessary either for the personal interest of the students or to motivate them for a professional career.

The following were also defined as priority areas for teacher training: Mathematics, Portuguese, Experimental Science Education, Information and Communication Technology (ICT), Special Education and English in the 1st grade.

TECHNOLOGICAL PLAN FOR EDUCATION (PTE)

Since 2005 there has been a national strategy to modernise Portuguese schools technologically and the present Government has made this one of its main goals. This strategy is called the Technological Plan and is an action agenda for the whole of Portuguese society, which aims at mobilising enterprises, families and institutions to meet the modernisation challenges the country has been facing during the last years.

Within this context, the Portuguese Government has made the Technological Plan a priority in the implementation of its public policies, including the Educational Sector.

As a strategy to promote the development and reinforcing of growth and competitiveness in Portugal, the Technological Plan is based on three axes:

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<tr>
<th>MEASURES BY STRATEGIC AXES</th>
<th>MEASURES BY ADDRESSEES</th>
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<tr>
<td>Axe 1 - Knowledge</td>
<td>Citizens</td>
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<tr>
<td>Axe 2 - Technology</td>
<td>Enterprises</td>
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<td>Axe 3 - Innovation</td>
<td>Public Administration</td>
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<td>Research and Education</td>
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Knowledge - To qualify the Portuguese for the knowledge society, fostering structural measures which aim at enhancing the average qualification level of the population, implementing a broad and diversified lifelong learning system and mobilising the Portuguese for the Information Society.

Technology - To overcome the scientific and technological gap, reinforcing public and private scientific and technological competences and recognising the role played by enterprises in the process of creation of qualified jobs and Research & Development (R&D) related activities.

Innovation – To boost innovation, helping the productive chain to adapt to the challenges of globalisation by means of the diffusion and development of new procedures, organisational systems, services and goods.

In order to simplify the consultation process for the citizens, the respective measures of the Plan have been organised according to both the above-mentioned strategic axes and their groups of addressees.

As far as education is concerned, the Technological Plan includes a specific programme to modernise
Portuguese schools technologically. (Please see point 2 of this questionnaire).

Besides these three big priorities of the PT, the MoE also has other key challenges (see point 1.1), which are:

- The extension of compulsory education up to 18 years and extensive pre-school education free for all five-year-olds;
- Improved efficiency in the organisation of schools, new leadership, and schools better oriented towards students and their families;
- The educational reintegration of students at risk of leaving school is the basis of the renewed TEIP (Educational Priority Intervention Areas Programme);
- The modernisation of school buildings, which started in March 2007;
- The New Opportunity Centres in 195 schools (see point 2.2), in which about 286,000 adults are registered;
- The new system for assessing teacher performance in schools, launched in 2008;
- The new model of school management and administration.

2. ICT POLICY

2.1. RESPONSIBILITIES

Responsibilities for ICT integration in schools are shared by various actors, at national, regional and local level. The Ministry of Education is the government department which, as laid down in the Education Act, is responsible for national education policy, covering pre-school, elementary schools and secondary schools.

The Technological Plan for Education (PTE) (see point 1.2) mobilises all central and regional bodies of the Ministry of Education. The heads of the services are part of the Board of Management, ensuring the strategic management, coordination and monitoring of the overall implementation of the Plan.

Each body has its core PTE, whose members participate in the PTE Team, responsible for the projects’ development. The Executive Coordination Team promotes the connection between the managers and technicians involved in the PTE.

The Consultative Council brings together personalities and civil society experts and representatives from partner organisations or from relevant fields for the Plan’s action.

Moreover, the administrative structure of the Ministry of Education includes the central and regional agents and services responsible for direct administration, and the network of state schools at all teaching levels, including groups of schools and training centres for associations of schools.

The five Regional Directorates (Direcção Regional de Educação, DRE) are decentralised services which are responsible for Ministry of Education administration in their respective regions, and provide information to users on the education system, guidance and co-ordination in running schools and support for the same, as well as co-ordination with the local authorities in their competences in this area of the education system. The Regional Directorates have teams that monitor schools’ work and the implementation of several initiatives at regional and local level.

2.2. ICT POLICIES FOR SCHOOLS

As previously mentioned, the Technological Plan for Education (PTE) is the programme to modernise Portuguese schools technologically and is one of the main goals of the present Government. This Plan is bringing change in schools and making them focus on the essential activities of teaching and learning. The main goals of this plan are:

- To turn classes into an interactive space of sharing knowledge without barriers or obstacles;
- To certify teachers, students, and other school staff with ICT competences;
- To prepare our students for the information society.

The purpose is to place Portugal among the five most developed countries in Europe as regards technological modernisation, by 2010. The main areas of intervention of the PTE are Technology, Contents and Training. These areas integrate in a transversal way every domain related to the modernisation of the
Portuguese school system. Concerning Education and training in ICT, we have achieved the following:

- Every state school has been connected to the internet by broadband since 2006.
- The number of computers connected to the internet in schools increased by 22% from 2005-6 to 2006-7.
- In the school year 2006-7 the average number of school students per computer connected to the internet was 11.7, an improvement of 16% on the previous year.
- The number of students enrolled for the first time in university ICT courses increased by 25% from 2005-6 to 2006-7.

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<tbody>
<tr>
<td>Broadband connection</td>
<td>6 Mbps</td>
<td>4 Mbps</td>
<td>≥ 48 Mbps</td>
</tr>
<tr>
<td>Ratio of students per computer with Internet connection</td>
<td>8.3</td>
<td>12.8</td>
<td>2</td>
</tr>
<tr>
<td>Teachers with ICT certification</td>
<td>25%</td>
<td>90%</td>
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**Equipment**

The PTE defines the Technological KIT, which is a set of equipment to be acquired by each school with the purpose of expanding the use of ICT in teaching and learning. By 2010, primary and secondary schools will be equipped with about 310,000 computers, 9,000 interactive whiteboards and 25,000 video projectors.

The main goal is to have in 2010 schools with one internet-connected computer for every two students. Currently, there is one for every eight students.

**PRIMARY EDUCATION**

**e-Escolinha**

Last year saw the creation of the e-Escolinha programme aimed at all pupils in the first years of state and private schools. Its goal is to guarantee the general use of computers and the internet, in order to promote access to knowledge.

In this context the Government distributed the personal computer Magalhães¹ to these children. This computer is specifically designed for children in this age range. It is shock and liquid proof, light and small and yet can be used by the whole family. Magalhães is supplied with educational contents which are specially selected for these children and equipped for internet access (www.eescolinha.gov.pt).

**ICT in kindergarten**

This is an area under development which requires great attention. Portugal participates as a partner in the KidSmart project. This Project was designed for pre-school education and is based on a partnership between IBM and the MoE PT. In the last few years (2004-7) IBM gave workstations to kindergartens with the purpose of contributing to the development of the Information and Knowledge Society, as it promotes inclusion.

**SECONDARY EDUCATION**

A Mission Unit was created at the Ministry of Education on the 1st of July 2005 – CRIE (Computers, Networks and Internet at School). This unit is now a team at the Directorate-General of Innovation and Curricular Development (DGIDC) of the Ministry of Education, and retains its mission of conception, development and evaluation of initiatives concerned with computers, networks and internet use at schools and in the learning process.

In the school year 2005-6 this unit promoted an initiative called “Schools, teachers and Laptops” (Iniciativa Escolas, professores e Computadores Portáteis)². This initiative supported the curricular integration of ICT and innovation; improved the use of ICT in the classroom; promoted teamwork between teachers and educational groups; helped teachers to manage and prepare daily activities; and sustained educational projects for the present and the future. During that school year schools had to establish viable

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projects to develop and submit them for MoE approval. The goal was to give each school and teacher ten laptops for teachers’ use and 14 for students’ use, according to the submitted project. In addition to the laptops, each school also received a video projector and a Wi-Fi access point. In September 2006, 85 percent of the laptops were allocated, with the remaining 15 percent issued in January 2007. In four months this initiative distributed 31,000 laptops to 1,200 schools all over the country.

In June 2007 another initiative, called elniciativas (www.eescola.net), was launched by the Government, and supported by the MoE and private enterprises. This initiative aims to finance actions to facilitate access to the information society, in order to promote inclusion. It involves teachers, students and also students from vocational training under the programme Novas Oportunidades, mentioned below (eOportunidades, eEscola and eProfessor). This gives the opportunity for everyone to have a laptop for a low price (€150) and low-cost internet access. At present, the main goal is to reach more than 750,000 people.

**VOCATIONAL EDUCATION**

For the adult population there is a new programme (www.anq.gov.pt), run jointly by Ministry of Education and the Ministry of Labour, with more than 250 centres around the country. Called Novas Oportunidades (New Opportunities), it has two main pillars (both training offers include ICT training).

The first main goal is to make vocational training a real option at the secondary level, giving new opportunities to the students. The intention is to involve more than 650,000 young people in vocational courses by 2010. The second goal is to expand adult training, giving everyone the opportunity to resume, complete and grow in their education and training. The intention is to qualify 1,000,000 adults by 2010.

Reaching these goals means a profound investment in a system which identifies, evaluates and certifies competences acquired all through professional and personal life and offers training to complement a degree, and it also demands a assessment system that ensures quality. Furthermore, vocational education is also embraced by the above-mentioned initiative elniciativas³.

**eSAFETY**

To promote an informed, critical and safe use of the internet by children and young people and their families, by workers and society in general, the Knowledge Society Agency (UMIC, Agência para a Sociedade do Conhecimento, IP), the Directorate-General for Innovation and Curricular Development/Team for Networks and Educational Resources (Direçção-Geral de Inovação e Desenvolvimento Curricular/Equipa Redes e Tecnologias Educativas - DGIDC/ERTE), the Foundation for National Scientific Computing (Fundação para a Computação Científica Nacional, FCCN) and Microsoft Portugal have submitted a proposal under the European programme Safer Internet Plus, to promote public awareness of safe use of the internet.

This consortium, coordinated by UMIC, was created to broaden the strategy initiated by DGIDC/ERTE among schools and in the community, under the project SeguraNet from the Safer Internet Programme, enlarging awareness actions and promoting the safe use of the internet in other sectors of society, and creating a hotline service⁴ to block illegal content on the internet and prosecute its disseminators in an effective way. The first phase of activities of this consortium ran from 2006 to the middle of 2008, but Portugal has already proposed a second phase to continue the work.

In addition to the above-mentioned we are still engaged with the ICT PSP (2007-2013) – ICT Policy Support Programme (Programa de Apoio à Política de Tecnologias de Informação e Comunicação) – which has as its main objective to accelerate the sustainable development of a competitive, innovative and inclusive information society.

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³ [http://www.eescola.net/](http://www.eescola.net/)
⁴ [http://linhaalerta.internetsegura.pt/](http://linhaalerta.internetsegura.pt/)
This is one of the main specific programmes under the CIP – Competitiveness and Innovation Framework Programme – of the EU. The CIP will cover the period 2007-13, with an estimated budget of € 3.6 billion Euros. It aims to contribute to competitiveness and to develop the potential of innovation in the community.

2.3. ICT PRIORITIES

The Portuguese curriculum is centralised and coordinated at a national level. The general curriculum framework in which schools act is based on the development of a set of essential structuring competences which aim at (a) guaranteeing all Portuguese citizens a common general education which ensures they discover and develop interests and aptitudes and promotes individual fulfilment in harmony with the values of social solidarity, (b) developing national awareness open to realities in a context of universalist humanism and international solidarity and cooperation; (c) furthering the acquisition of independent attitudes so as to develop citizens who are civicly responsible and participate democratically in community life.

The curriculum organisation and management comprise the following guidelines:

- articulation and coherence between the three cycles of basic education and subjects/areas;
- coordination between curriculum and assessment, by ensuring that the assessment regulates the education process;
- the existence of cross-curricular areas (Project Area, Study Skills and Civic Education) to endow students with meaningful learning experiences and a comprehensive education, by means of knowledge articulation and contextualisation;
- education for citizenship integrated in all subjects and areas as a cross-curricular issue;
- reinforced school autonomy towards the definition of a proper curriculum development that will meet the school context and will be integrated in the educational project of the school;
- diversification of teaching methodologies and strategies,
- Portuguese as a second language;
- an emphasis on vocational guidance.

3. THE CURRICULUM AND ICT

3.1. THE CURRICULUM FRAMEWORK

In the national curriculum ICT is both a transversal subject and a general competence to be developed in compulsory education (1st-9th grades). In 2004/2005 a new subject was added for the 9th and 10th grades, which aims to give ICT competences to every student. There are also explicit references to the use of ICT in non-subject curricular areas, in the 8th grade, as privileged tools, to the promotion of interdisciplinary practices and the adoption and use of interdisciplinary e-portfolios.
There are specific courses in the use of ICT in vocational areas, where there are technology subjects, namely Multimedia and Coding.

In the curricula of some subjects, such as Mathematics, there are references to specific software to deal with some of the subject’s themes.

In primary education the governmental initiatives that have enabled pupils to purchase personal computers at low cost may enable the growing use of these tools in the classroom, as the teachers have training and feel more confident in ICT use.

3.3. STUDENTS’ ICT COMPETENCE

The ICT discipline was established to guarantee that no student leaves the compulsory school system without ICT skills. These ICT skills are:

- Profiting from Information Technology and Communication in the tasks of building knowledge in the different contexts of today’s world;
- Mobilising knowledge of the structure and basic operation of computers, in order to make informed decisions on the acquisition and / or remodelling of hardware;
- Using the basic functions of the operating system desktop environment, using common computer applications (word processor, spreadsheet and presentations);
- Using the potential for research, communication and collaboration of the internet, email and other communication tools in real time;
- Using the procedures of rational and methodical search for information on the internet, for a careful selection of information;
- Co-operating in groups to perform tasks and find solutions for problem solving;
- Applying ICT skills in different contexts;
- Carrying out interdisciplinary projects using the methodology of project work.

3.4. ASSESSMENT SCHEME

The ICT discipline (9th grade) will be assessed by national exam. Other schemes of certification exist according to the different programmes.

So far we do not have accreditation schemes from a European /international level.

3.5. ICT BASED ASSESSMENT

So far as assessment is concerned, Portuguese schools frequently use the Moodle platform and its features in student assessment, as it allows creating and applying tests and other assessment tools.

3.6. QUALITY ASSURANCE OF THE USE OF ICT IN SCHOOLS

A central department at the Ministry of Education is responsible for inspection of schools (General Education Inspectorate - www.ige.min-edu.pt). It looks at the administrative/financial level and pedagogical level and produces reports on the situation.

Another central department, GEPE (Education Planning and Statistics Office, www.gepe.min-edu.pt), is in charge of the educational statistics; it collects data every year on many issues. One of the statistical tools focuses specifically on ICT – equipment, infrastructure, connectivity, software, and online services.

With the cooperation of Higher Education institutions an Observatory for the Technological Plan for Education has also been created.

The last major ICT in school survey in our country in the last 12 months was a diagnostic study of the technological modernisation of the school system in Portugal (Estudo de Diagnóstico: a modernização tecnológica do sistema de ensino em Portugal, available only in Portuguese).

4. DIGITAL LEARNING RESOURCES AND SERVICE

4.1. CONTENT DEVELOPMENT STRATEGIES

Still on the topic of the development of the use of ICT in Portuguese schools and as part of the PTE we are working on a repository of digital contents for teachers and students. This repository will include content

designed according to the curriculum including lesson plans, activities and information as well as cross-curricular content such as encyclopaedias and even content offered by registered users. This repository is called Portal das Escolas (Schools’ Portal): www.portaldasescolas.pt.

4.2. E-CONTENT DEVELOPMENT

None so far.

4.3. USER - GENERATED CONTENT

Lorem ipsum dolor sit amet, consectetur adipiscing
As mentioned above (see point 4.1), within the PTE a repository of digital contents for teachers and students called Portal das Escolas (Schools’ Portal, www.portaldasescolas.pt) has been created.

In the Schools’ Portal you can find relevant information about the schools and their educational communities and a repository that offers over a thousand digital educational resources. All schools in the country will be represented on the website and may disseminate educational initiatives and information of interest to the general public.

Schools’ Portal is a new digital platform of reference for schools in Portugal, and was built with a modular logic and services will be available gradually. In the first phase, the portal is aimed at teachers and focuses on a key objective of the Technological Plan for Education, which is the use of digital educational resources in education.

It is possible for teachers to access the existing contents, but also contribute as authors to the enrichment of the content repository. After being duly registered in the Schools’ Portal, with data validated by the Ministry of Education (MoE), teachers in public education up to 12th grade can upload educational resources into this repository.

To ensure that the Schools’ Portal is a space in which each user can see material and information that will be useful for their school, professional and academic life, the MoE will adopt mechanisms for validation of these user-provided educational resources before they are made available.

The Schools’ Portal will thus be the largest collaborative network of education in Portugal, stimulating the production, sharing and use of digital content for the teachers’ community. In the Schools’ Portal, you will find the following key features:

- Educational resources: the Portal offers educational content that can be used in teaching. This repository of digital educational resources can include text, images, videos or music. Registered users can also upload resources;
- Schools’ Roadmap;
- The user can check information on the characterisation of Portuguese schools;
- News and Events Education: the user can browse news and events about education.

4.4. WEB 2.0

In our country there are several initiatives to promote the use of Web 2.0 tools in schools for teaching and learning. In 2008 there was a major event on Web 2.0 tools and as result of this event a handbook for the use of Web 2.0 tools in schools was created. This handbook is available for everyone online (Manual de Ferramentas da Web 2.0 para Professores, available in Portuguese⁶).

Moreover, tools such as blogs, wikis, podcasting, social networking and sharing services (websites, images, videos, audio files, etc.) are frequently used in our educational system. It is therefore necessary to provide teachers and trainers with skills for the use of such tools in a creative and reflective way, allowing the creation of new spaces for learning. The use of Web 2.0 tools in educational contexts allows the creation and design of learning activities rich in interaction, culture and activity⁷.

4.5. CONTENT SHARING

Concerning the sharing of digital content in Portugal, in the context of PTE, the Portal das Escolas (www.portaldasescolas.pt) currently has 1,300 resources for teachers. For the exchange of this content with other countries, we are partners in the

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⁶ http://tinyurl.com/5opclc
⁷ http://www.iep.uminho.pt/encontro.podcast/
Aspect project (Adopting Standards and Specifications for Educational Content), and Lreforschools (http://lreforschools.eun.org).

4.6. LEARNING PLATFORMS

In Portugal, every school from 5th to 12th grade owns a learning platform, Moodle. This platform is used as a means of communication to the school community and a workplace for students and teachers.

5. TEACHER EDUCATION FOR ICT

5.1. ICT COMPETENCE TARGETS

According to PTE one of the main areas of intervention is training. Last July legal guidelines concerning teacher training and certification on ICT competences were compiled. This document (Portaria 731/2009, 7th July) defines the ICT competences training and certification system for teachers from all school levels.

This system is organised in three levels in accordance with the principles of strengthening, diversification and progressive enlargement of acquired skills and professional contexts of use and integration of ICT.

5.2. ASSESSMENT SCHEMES

The monitoring of ICT competences training and the certification system are conducted within the scope of the organic and operational structure of the Technological Plan for Education. The Education Planning and Statistics Office develops and maintains the information support system for training and certification of ICT competences.

5.3. ICT IN TEACHER EDUCATION

Initial teacher training is a responsibility of Higher Education institutions.

The training component aims at strengthening and valorising skills, overcoming the main factors inhibiting technological modernisation of the education system by promoting the use of ICT in teaching and learning and school management, training teachers in the pedagogical use of ICT and mechanisms for certification of ICT competences.

The ICT competences training and certification system is based on the principles of strengthening, and diversifying acquired skills and their integration in professional contexts. The system should allow both the acquisition of new knowledge on functionalized pedagogical use of ICT and the validation of skills acquired outside the legal framework for the training of teachers. The aim is to take into account the knowledge acquired in the course of additional specialized academic training and the knowledge acquired during the professional career of teaching.

5.4. TRAINING THE TEACHER TRAINERS

Training of teacher trainers is addressed mainly in three dimensions:

- Internet safety: this is a central issue as well as a good starting point to address several uses of ICT in school, and even beyond school. Internet safety is a starting point to develop a number of skills necessary for the profile of the 21st century teacher (around 360 teacher trainers have attended courses)
- The pedagogical use of interactive white boards (IWB): a large number of courses addressing the specific uses of IWB have taken place all over the country. The aim was to see the IWB as a tool that can bring motivation but above all allows new methodological approaches to the learning and teaching processes (around 500 teacher trainers attended the courses).
- ePortfolios: following a recommendation from the Ministry of Education for the use of eportfolios for students in compulsory education, a training of teacher trainers took place addressing a specific tool (REPE) and the pedagogical use of eportfolios.

5.5. INCENTIVES

The methodologies that seem most successful and give the best results are the ones that lead to effective participation by trainee teachers – workshops, study circles, project/research oriented, mixed with distance learning tools or based on e-learning.

Portuguese partnerships in European projects and initiatives have contributed to exchange of innovative methodologies and tools in learning.
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