GREECE

Country Report on ICT in Education

Available on http://insight.eun.org

Contact: Pantelis Nikolaidis, The Hellenic Institute of Educational Policy (IEP)

2013

INSIGHT

European Schoolnet

TABLE OF CONTENTS

1. THE EDUCATIONAL CONTEXT

1.1 EDUCATION REFORM

Education policy and strategy in Greece is mainly the responsibility of the Ministry of Education and Religious Affairs (MoE – www.minedu.gov.gr), assisted in its work by a number of institutional entities.

The MoE has established a strategic plan for the **Digital School**, in order to modernise the education system through the use of ICT. In the context of the Digital School strategy, on-going and forthcoming actions in both primary and secondary education develop the widespread use of innovative technologies (e.g. web 2.0 applications), in order to improve traditional and lecture-dominated teaching methods and to provide a flexible and attractive learning environment.

The Digital School strategy constitutes a systematic and comprehensive approach with complementary measures implemented simultaneously (e.g. investment in digital infrastructure, development of new learning materials, change of curricula, teacher training). All new services have been designed in a way that ensures successful deployment based on the following three key success factors:

- The active participation of teachers (both primary and secondary) in the development process of digital learning materials and their everyday use during the teaching process;
- The active involvement of all educational units in all learning subjects;
- The establishment of a continuous evaluation process in order to ensure the quality of digital educational resources.

Although the Educational Reform consists of several individual actions, it also becomes a coherent common tool to provide synergies and effective initiatives that mainly focus on:

- Training policies for initial training, continuous support for teachers and in-service training on new curricula for school heads.
- Inclusion policies that focus mainly on “Zones of Educational Priority”.
- The rationalisation of the school administration, based upon two major actions:
  - A new merging plan for school entities;
  - A certification of administrative efficiency in education.
- The school evaluation policy with special attention to the development of an external evaluation framework.
- Development of the New Curricula, based on learning outcomes.

Related actions include:

- Better establishment of **Bring You Own Device** (BYOD) projects in primary and secondary schools.
- Installation of computer laboratories with enhanced functionalities (e.g. broadband wireless access, multimedia equipment) and integration of advanced devices such as interactive whiteboards.
- Interconnection of schools to municipal optical metropolitan area networks, enabling high-speed optical access to the Greek School Network (GSN).
- Promoting innovation with the design and implementation of innovative actions such as new interactive and experimental learning environments considering the use of tablets or e-book readers, low cost electronic prototyping platforms (e.g. Arduino kit, Raspberry Pi), 3D printers and programmable robotic and artificial intelligence systems.

European Schoolnet

1.2 KEY CHALLENGES/PRIORITIES FOR EDUCATION

The Educational Reform Plan for Primary and Secondary educations covers the following eight fields.

1. Leadership & School Management
2. Training
3. Zones of Educational Priority
4. Administration
5. Curricula
6. Evaluation
7. Digital school
8. Supporting Measures

Fundamental objectives were set for each of these eight fields, shaping a sub-planning methodology and ensuring consistency and more effective action.

2. ICT POLICY

2.1. RESPONSIBILITIES

The **MoE** has the overall responsibility for pedagogical, professional and educational initiatives within the national education system. Additionally, a number of other institutional entities provide expertise to the MoE regarding specific educational policy areas.

Institute of Educational Policy (IEP)

Established in 2011, the IEP is a private legal entity supervised by the MoE and operating for the benefit of public interest as an executive scientific body that supports the Ministry with the main aim of conducting scientific research and the study of issues related to primary and secondary education, the transition from secondary to tertiary education, the on-going scientific and technical support for the design and implementation of educational policy issues (www.iep.edu.gr).

Computer Technology Institute and Press *Diophantus* (CTI-Diophantus): CTI-Diophantus is a research and technology organisation focusing on research and development in ICT. Particular emphasis is placed on education by developing and deploying conventional and digital media in education and lifelong learning; publishing printed and electronic educational materials; administrating and managing the Greek School Network (see below); and supporting the organisation and operation of the electronic infrastructure of the MoE and all educational units (www.cti.gr).

Greek School Network (GSN)

The GSN is the educational intranet of the MoE, which interconnects all schools and provides basic and advanced telematics services. The network therefore contributes to the creation of a new generation of educational communities that make use of new ICT in the educational process. The implementation of the GSN is supervised by the MoE along with 12 national research centres and higher education institutes specialised in network and internet technologies (www.sch.gr).

ICT support for schools

In order to meet the increasing needs for educational and technical support in primary and secondary education, 58 regional support centres (**KEPLINET**), have been established at regional level. The IT coordinators (**PLINETs**), who have been based in KEPLINETs since the mid-1990s, provide educational support and advice to secondary teachers for the subject of informatics. New personnel with technical expertise are now being assigned to KEPLINETs in order to provide technical support for computer labs and networks established in both primary and secondary schools. There are no IT coordinators at school level, but IT teachers receive educational support from the PLINETs in their school region.

ICT Guidance for schools

Since the 2007-2008 school year, 25 ICT school advisors, each supervising specific areas of the country, have been responsible for the scientific and pedagogical guidance of ICT teachers and for the provision of necessary consultancy/guidance and problem-solving

in the school environment; they also run seminars for ICT teachers.

2.2. ICT POLICIES FOR SCHOOLS

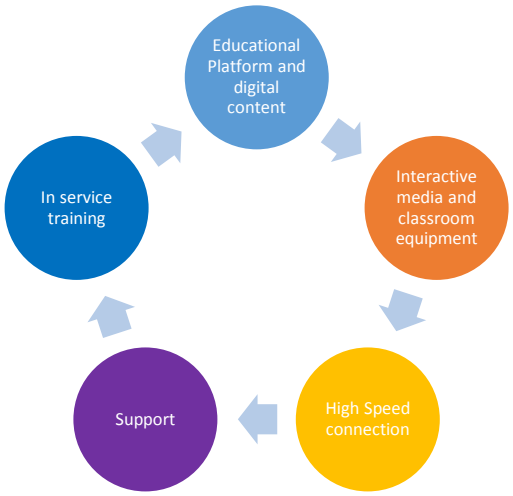
The **Digital School** strategy is based on three main pillars:

1. The creation of a single digital environment that will ensure better educational outcomes.
2. A better allocation of resources by incorporating ICT as a tool for the efficient administration and management of the educational system at both regional and central level.
3. Ensuring social justice by providing equal digital access for all participants in the education system and to open digital educational resources.

To support the aforementioned main pillars, initiatives in the following areas are already being implemented or are scheduled to be implemented:

- Educational platform and digital content;
- Interactive media and classroom equipment;
- High-speed connection to the internet for all schools;
- Support for actions;
- Training for educators.

The diagram below shows the overall approach for the Digital School strategy.



For each of the above-mentioned priorities, specific aims were set and related initiatives implemented.

1. **Creating better educational outcomes.**
   - Improving the quality of digital educational material as an outcome of educational process.
   - Development of a new digital infrastructure to ensure the support of a constructive model for teaching and to strengthen communication and cooperation between teachers, students and family.
   - Validation of ICT skills acquired by students in school.
   - Empowerment of innovation and creativity for students and teachers through the use of ICT.
   - Development of the existing curriculum in order to support the digital changes in public education.

2. **Savings and rationalisation of resources to ensure the best return on investment in education.**
   - Introduction of e-governance for all levels of the educational administration.
   - Mitigation of the administrative burden on the schools, enabling more time to be given to the educational process.

- Establishment of a new method of communication between educational communities in order to promote the exchange of new learning ideas and best practice.

3. **Enhancing social justice through equitable access to ICT for all**.
   - Establishment of equal access to digital educational resources for all, regardless of origin, mental or physical ability or other characteristics.
   - Access to the internet as a basic right and basic skills for all students and teachers.
   - Support of digital infrastructure with web 2.0 tools for social networks of learning communities, shared applications and collaboration of educational content both at school level and between networks of schools.

2.3. SPECIFIC ICT INITIATIVES

1. Interactive whiteboards, laptops/notebooks, tablets or other mobile technology

Interactive Teaching Systems Pilot Project (interactive tables, data-projectors) in 2nd grade of 1250 high schools.

Interactive Teaching Systems Project Interactive Teaching Systems for secondary education (20,000 in total).

Portable PC laboratory (PCs, Wi-Fi, memory sticks, mobile cabinet) for all "large" elementary schools and all high schools in Greece.

2. Bring your own device (BYOD)

There is no specific initiative in this area.

3. Cloud computing

There is no specific initiative in this area.

4. Inclusion and special needs

In-service training of special needs teachers.

Improvement of the digital infrastructures of special needs schools.

5. Connectivity (e.g. wireless internet, optical fibre connections)

Direct broadband connection via Metropolitan Area Networks (MAN): Optical fibres in schools of 30 municipalities. Additional broadband connection of schools in 27 more municipalities via the extension of the EDET network.

Wiring and equipment of networks in schools in the Greek School Network and additional services: Upgrade of speed to 24Mbs, digital voice services, tele-education, video streaming and web TV).

6. Design of 21st century learning spaces

Digital platform (digitalschool.ypaideias.gr): Open source software, with active participation of users by incorporating web 2.0 tools.

All books in digital format (html, epub, mobi, etc.) enriched with additional interactive material (applets, animations, videos, links, etc.).

Educational Scenarios for each unit in which ICT in teaching is being introduced.

7. Any other ICT initiative

In-service training of primary and secondary education teachers (approx. 103,000) in the use of ICT tools in teaching.

Video teaching models for all examination courses in 3rd grade of high school.

Digital tuition centre.

Promotion of distinction and innovation in the use of ICT from the educational community (rewards, competitions, etc.).

Certification of ICT knowledge for all students in 3rd

grade of high school (preparatory work has already begun).

Safer internet initiative aiming to inform parents, students, and teachers on the safe use of the internet (internet-safety.sch.gr).

A multimedia platform (www.edutv.gr) has been created and is connected with many social networking sites.

Additional digital material such as photos, video and digital educational games related to each unit of the curriculum, from digital files of public or private institutions (ERT, GAK, libraries, museums, etc.).

2.4. ICT PRIORITIES

Area	High	Mid.	Low
ICT in teacher training	X		
In-service teacher training	X		
Curriculum development		X	
ICT-based assessment		X	
Infrastructure and maintenance		X	
Digital learning resources	X		
School-home connections			X
ICT for learners with disabilities/special needs	X		
ICT-related research		X	
e-Safety	X		
Reducing the digital divide		X	
Interactive Whiteboards		X	
Netbook/notebooks		X	
Tablets			X
Developing key competences		X	
Developing 21st century skills (critical thinking, problem solving, communication, creativity, innovation)	X		

2.5. NATIONAL CHARACTERISTICS (OPTIONAL)

No information provided.

3. ICT IN THE CURRICULUM

3.1. CURRICULAR FRAMEWORK

The **Cross-Thematic Curriculum** is drawn up by the Institute of Educational Policy (IEP), approved by the Minister of Education and published in the Official Gazette. Specially appointed working groups develop the Cross-Thematic Curriculum separately for each school subject and education level, under the authorisation of the MoE and IEP.

The Cross-Thematic Curriculum is differentiated for each school subject, comprising the general aims and sub-aims that are to be attained in any specific subject, as well as detailed curricula and school schedules. The syllabus is directly linked to a specific textbook written by experts or group of experts, following specific guidelines, under the authority of the MoE and IEP.

The textbooks are officially published by MoE and dispatched to all public schools. All students in public education receive the relevant textbooks for their grade and standard student textbooks free of charge. Along with the student textbooks, experts or group of experts for each subject also write a teacher's book providing example lesson plans for specific content at every grade.

A relevant teacher's guide explaining the aims of the subject and providing some teaching guidance based on the specific student textbook is distributed to each teacher.

3.2. ICT IN THE CURRICULUM

Within the Digital School strategy, a number of special initiatives/projects are in progress with the aim of improving the integration of the most recent ICT developments in the curriculum.

The new curriculum for the course of Computer Science and Information Technology (ICT) in compulsory education aims to develop the digital competences (knowledge, skills and attitudes related to ICT) neces-

sary to enhance students' learning capabilities, continuous and lifelong development and ultimately their participation in society.

For this purpose, the new curriculum is divided into four interdependent components:

1. ICT as a scientific and technological tool.
2. ICT as a learning/cognitive tool.
3. ICT as a problem-solving methodology.
4. ICT as a social phenomenon.

This is a laboratory-oriented course that is based on the active participation of each student. Modern computing and web 2.0 environments have created new places for study, research, communication and cooperation between students, educators and parents. The course aims to encourage exploratory and constructive new pedagogical approaches, interactive and collaborative learning, and students' self-motivation and creativity.

Suggested teaching approaches

The teaching of Digital Literacy in primary and lower secondary education is clearly based on classroom laboratories. A key success factor is active student participation with continuous interaction and collaboration with the instructor but particularly with their peers. The **Classroom Computer Laboratory**, conventional or mobile (transportable classroom), is provided as an area for students' study, research, active participation and cooperation. This helps to encourage and promote the exploratory approach of new knowledge, interactive and cooperative learning, and students' self-motivation and creativity.

To achieve these objectives, each module contains two consecutive credit hours in the curriculum. This will provide sufficient time for students to explore, experiment, collaborate, design and create integrated digital outcomes through appropriate ICT-based learning activities and tools.

A special initiative has been designed including actions such as the identification and mapping of existing open educational digital materials and software aligned with the existing curriculum.

In **primary education**, there is no dedicated educational time allocated for the introduction of ICT within the national curriculum for informatics, but ICT is expected to be incorporated into other school subjects. ICT will be integrated gradually through the computer curriculum subject that is taught once a week by specialist IT teachers. During the first two years pupils get to know the basic operations of a computer, its peripheral devices and the operating system. At the same time, they develop their skills and abilities in the use of graphics, word processing, spreadsheet, presentation and database software. In the third year, pupils are introduced to programming through the use of the LOGO language, which they use in team projects, using Office tools that they learnt in previous years.

The table below analyses the structured learning objectives for the new curriculum in primary education.

Table 1: Learning Objectives for ICT in Primary Education.

1. **Learn, create and express myself with ICT**
   - Understand and be able to use a computer
   - Create and give multimedia presentations
   - Create with editor
2. **Communicate and collaborate with ICT**
   - Learn about the internet
   - Look for information
   - Communicate and collaborate
3. **Explore, discover and solve problems with ICT**
   - Models with conceptual mapping
   - Problem-solving with spreadsheets
   - Computer programming
   - Basic research using ICT
4. **ICT as a social phenomenon**
   - The role of ICT in society
   - Digital culture (attitudes, behaviours, values)

In **lower secondary education** (*Gymnasio*), informatics has been introduced as a separate curriculum subject, taught once a week by specialist IT teachers. During the first two years pupils get to know the basic operations of a computer, its peripheral devices and the operating system. At the same time, they develop their skills and abilities in the use of graphics, word processing, spreadsheet, presentation and database software.

Learning Objectives for ICT in Lower Secondary Education.

1. **Manipulate and create with ICT tools**
   - Basic knowledge and skills in ICT
   - Creativity using ICT tools
2. **Look for information, communicate and collaborate with ICT**
   - Research, evaluation and information management
   - Communication/cooperation
3. **Explore, discover and solve problems with ICT**
   - Critical ability, modelling, innovation
   - ICT as a social phenomenon
   - The role of ICT in society
   - Digital culture (attitudes, behaviours, values)

New Curriculum structure for ICT in lower secondary education

ICT Topic	7th Grade	8th Grade	9th Grade
Basic ICT concepts		X	
Operating Systems			X
Word Processing			X
Multimedia Presentations			X
Using Spreadsheets			X
Programming			X
ICT Projects	X	X	X

In **upper secondary education** (*Lyceum*), ICT has been introduced in two separate optional subjects: **Information Technology Applications** and **Computer Applications**. In the 3rd grade of *Lyceum*, all students who wish to be accepted into Computer Science Departments or Technical Universities have to study the subject **Development of Applications in Computer Environments**.

According to the national curriculum, ICT aims at the cultivation of students' general knowledge on informatics, the use of ICT as a means of thinking and learning, the familiarisation of students with the applications of informatics in the modern world and their potential in the labour market and, finally, the development of a critical understanding of the integration of informatics in society and human activity.

The subject Information Technology is also taught in all branches of **vocational lyceums** (*Epagelmatiko Lykeio*), in the form of two separate subjects, **Use of Computers** and **Computer Applications**. Information Technology is also taught as a specialisation in branches that offer a level 3 diploma in informatics (Computer Support, Network Support).

Education at vocational lyceums lasts three years for students who have successfully completed lower secondary school (*Gymnasio*). During the first year of vocational education there are three separate fields: technology, services, and maritime shipping. In the 2nd and 3rd grades, there are eight fields, including **information services**.

School autonomy

All schools must follow the national curriculum. As such, all schools must offer the subject of Information Technology and make sure that the targets set in the ICT national curriculum for each level of education have been achieved. Schools have the flexibility to offer additional informatics sessions, with any costs in terms of human and technical resources to be covered by the school's budget or with the support of parent associations. These additional programmes also need to be authorised by the MoE. Private schools also follow the national curriculum and cover all the necessary costs.

3.3. STUDENTS' ICT COMPETENCE

Specific attainment targets are set for students according to the national curriculum for informatics at each level and grade of education. Students are evaluated by their teachers on the basis of the fulfilment of these specific ICT attainment targets, as is the case for all other curriculum subjects in secondary education. Pupils in primary education are not evaluated for their ICT skills.

3.4. ASSESSMENT SCHEMES

The ICT assessment in schools has an overall approach covering three main pillars.

1. Assessment of the educational use of digital resources.
2. ICT skills acquired through teacher training programmes.
3. Students' ICT skills acquired by the end of compulsory education.

3.5. ICT-BASED ASSESSMENT

The following two initiatives shape the overall approach for ICT-based assessment in the area of student's skills acquired by the end of compulsory education and teachers' skills acquired through in-service training. Both initiatives result in the acquisition of the relevant ICT certification.

Certification of secondary school students in ICT: Implemented by CTI-Diophantus, this project aims to develop and provide the following educational services:

- A framework for the certification of secondary school students' ICT competences.
- A pilot ICT certification programme for high school students for the 2012-2013 and 2013-2014 school years (with an early pilot conducting certification of a small number of students in 2011-2012).
- The development of digital educational materials supporting the learning process for the acquisition of ICT skills and self-assessment of the students.

In-Service Training of Teachers for the utilisation and application of ICT in the teaching practice: This project, implemented by the IEP and CTI-Diophantus, focuses on the in-service training of Greek primary and secondary education teachers in the application of ICTs in classroom teaching. The project includes tasks for the evaluation and certification of ICT skills, supported by an appropriate ICT based-assessment tool.

3.6. QUALITY ASSURANCE OF THE USE OF ICT IN SCHOOLS

There is no specific mechanism for quality assurance of the use of ICT in schools.

However, as is the case for other national curriculum subjects, IT teachers in secondary education must complete an official "diary" on educational units in each subject. Furthermore, school advisors are responsible for the support of teachers in primary and secondary education on pedagogical issues. However, their role is to advise and not to assess teachers' work or the school's progress.

4. DIGITAL LEARNING RESOURCES AND SERVICES

4.1. CONTENT DEVELOPMENT STRATEGIES

The MoE is responsible for the provision and maintenance of the necessary teaching and learning resources in all public schools. Within this framework, the MoE coordinates a number of initiatives related to the development of educational software and digital educational materials as well as free online access to existing materials.

The MoE is also responsible for maintaining the digital educational resources for public schools in collaboration with the leading educational institutions IEP and CTI-Diophantus.

A number of supportive actions for promoting distinction and innovation in the use of ICT by the educational community (rewards, competitions, etc.) are also held on an annual basis.

Digital educational content is a key factor for the successful introduction of ICT at primary and secondary educational level. The **Digital Educational Library**, includes the collection, evaluation, use and (where necessary) development of digital content in order to support the educational process in the classroom and beyond. This digital content is currently open and available for use by all teachers and students through a single digital educational platform.

The development of educational content within an Open Educational Resource (OER) platform, based on the use of open standards software (open source), public access licence (creative commons) and involvement of the teachers themselves (bottom-up approach) using participatory tools and web 2.0 is encouraged.

The first phase of the MoE's content development strategy includes making all existing textbooks available in digital form and developing lesson plans for teachers and existing educational applications for every course at every level of primary and secondary education. Digital access to educational materials is provided both from school and home, so that students can study, develop and deliver their work digitally.

Special attention has been given to the creation of digital content focused on students' needs regarding preparation for national higher education entrance exams. Each digitised course includes a model teaching video as well as all relevant support materials including notes, problem-solving methods, examples and exercises. Best practices from prior implementation by prestigious universities will be used.

4.2. E-CONTENT DEVELOPMENT

Digital Educational Platform (DEP – digitalschool.ypaideias.gr)

The DEP includes over 130 schoolbooks from all educational levels with multimedia support and interactive materials, and has already received over ten million visitors. At the same time, a new project has been launched for the enrichment of the platform with further digital educational scenarios, while a number of agreements with other national content providers, such as the Ministry of Culture, museums, educational centres etc., will ensure the incorporation of new educational content to the DEP.

The DEP aims to support educational content with the following:

- All digital format textbooks (html, epub, mobi, etc.) enriched with additional interactive material (applets, animations, videos, links, etc.).
- Scenarios for each unit where ICT in teaching is being introduced.
- Additional digital material such as photos, videos and digital educational games from public digital archives or private institutions.
- Video teaching models for all examination courses of the 3rd grade of *Lyceum* through the digital tuition centre.
- Local digital content management of each class (exchange of work between students and teachers, statements, tests, grades, absences, etc.).

Photodentro (photodentro.edu.gr)

Photodentro is the Greek Digital Learning Object Repository (LOR) for primary and secondary education. It has been designed and is being developed by CTI-Diophantus within the framework of the Digital School strategy, with the aim of making it the central access point to digital educational content. Photodentro is accessible by all: students, teachers, parents, as well as any other interested parties.

Photodentro stores reusable learning objects that have been developed by teachers in the context of the enrichment of primary and secondary education textbooks, created within other projects funded by the MoE or selected from other sources.

Photodentro is more than a repository: it constitutes the **Greek National Aggregator of Educational Content** that compiles metadata from collections of digital resources that are stored in digital libraries and repositories of other organisations (museums, libraries, audiovisual archives, etc.) and that can be used in the learning process. The aim is to provide an infrastructure through which services of various types (e.g. thematic or geographic portals) can be developed quickly and easily.

Photodentro will be connected to the DEP, thus facilitating teachers and students in finding educational material as well as incorporating and using this material in learning scenarios and courses.

Educational Radio-Television & Digital Media Multimedia Platform (www.edutv.gr)

The EduTV platform is already connected with many social networking sites that focus on user-generated content. The platform includes digital content dedicated to primary and secondary education, while supportive actions such as icreate (i-create.gr) or School Lab (school-lab.org) aim to provide an innovative online platform for the creation and exchange of STEM ideas by students, teachers, and researchers in order to:

- Understand science's fascinating challenges;
- Develop a critical and thought-provoking mindset through innovative and creative activities;
- Enhance students' confidence and skills so they can present their ideas to a wide audience;
- Recognise upcoming scientists as role models.

IFIGENEIA Educational Activities Repository (ifigeneia.cti.gr)

IFIGENEIA is a digital library of educational activities and training materials, aiming to improve the use of ICT in the educational process. The library is a useful tool for trainers and teachers participating in training programmes, and supports teachers to "testify" to the cataloguing of educational content (e.g. scripts for educational activities and other supportive content) using the appropriate metadata (e.g., creator writer, intellectual property, supported software, language, etc.). IFIGENEIA is currently provided in Greek and only those who have been provided with the necessary credentials can access it.

4.3. USER - GENERATED CONTENT

The existing **e-ylico educational portal** (www.e-yliko.sch.gr), supported by the MoE's Educational Portal Office, aims to provide educational software, ICT-based teaching scenarios, resources, links and further educational support to teachers in order to create new content. Aiming to extend the portal's functions and services, a more dynamic platform has been developed in order to encourage ICT education in the classroom, as well as the communication among members of local educational communities. The portal currently provides innovative educational activities adapted for distance learning and professional development, especially for teachers in remote and isolated areas.

The **Centre for the Greek Language** has developed a dedicated educational portal (www.greek-language.gr) aiming to support the educational community in generating new content in the subject of the Greek Language. The portal provides digital educational tools such as bibliographies, studies, guides and sources.

4.4. WEB 2.0

In the context of the **Digital School** strategy, on-going and forthcoming initiatives in both primary and secondary education aim to spread the use of innovative technologies (e.g. web 2.0 applications) in order to improve traditional and lecture-dominated teaching methods and to provide a flexible and attractive learning environment.

The **Greek School Network (GSN)** already offers web hosting and blogging services, including the hosting of teacher and school web pages, authoring tools for web pages, the hosting of dynamic pages, a database service, blogs, video on demand (VoD), live webcasting and social networking (www.sch.gr).

4.5. CONTENT SHARING

Please see *Section 4.2* and *4.3* above, which describe a range of resources, all of which are freely available.

4.6. LEARNING PLATFORMS

The **Digital Educational Tools for the PanHellenic Examinations Platform** (www.study4exams.gr) provides content focused on students' needs regarding preparation for national higher education entrance exams. Each digitised course includes a model teaching video as well as all relevant support materials including notes, problem-solving methods, examples and exercises. Each student-user creates a personal space where they can communicate with a dedicated group of teachers that has been appointed to answer all their questions. Any answers from these teachers are posted on the platform so that they are available for all students using the system.

4.7. ACCESS OF SEN STUDENTS

According to the **Digital School** strategy, the equal access of students with disabilities and specific learning difficulties should cover participation in all aspects of education such as school learning, communication, preparation for daily living, social interaction and the creation of social relationships. ICT has been an important tool for the support of students with special needs.

All of the actions implemented by MoE aim to:

- Improve the digital infrastructures of educational units (schools, etc.) for students with special needs.
- Promote the use of ICT in the administration of education for people with special needs: a central register for people with special needs in education, educational material for the first two grades of primary school, a system for the online monitoring of educational units

Prosvasimo (www.prosvasimo.gr) is the Greek Digital Learning Object Repository (LOR-SE) for primary and secondary special needs education. It has been designed and is being developed by the IEP within the framework of the Digital School strategy in order to become the central access point for digital educational content for students with special needs. The project aims at adapting all school textbooks in order to make

them accessible to students with disabilities. The training materials have been developed in print and digital format, depending on the type of disability and the special educational needs being targeted. The project uses dedicated digital technology to make content fully accessible. The scope of the project also covers the development of special educational material designed to properly prepare students with disabilities for school enrolment.

The development of the specific educational material covers the needs of students with the following disabilities or learning difficulties:

- Visual Impairment
- Hearing Impairment
- Physical (motor) disabilities
- Mild learning disabilities
- Autism
- Attention deficit disorder (ADD)

5. TEACHER EDUCATION FOR ICT

The **Digital School** strategy emphasises teacher training. Focusing on the specialisation of each teacher, the implementation methodology includes both traditional and distance learning (synchronous and/or asynchronous) and the evaluation and certification of ICT skills, supported by an appropriate information system. Furthermore, a specific training programme has been designed for teacher trainers on the use of interactive whiteboards in the education process, this programme is provided under the framework of the ICT infrastructure acquired by each school.

The teacher training programme will involve teachers of primary and secondary education, focusing on the use of ICT during the educational process in the classroom.

Specifically, the initiative includes:

- A training programme for 300 teacher trainers. New trainers, along with existing registered trainers will be conducting and offering support for the training initiatives throughout the country.
- A training programme for 800 school advisors to offer a support network for all supervised teachers in the improvement of their ability to use ICT in the classroom.
- A special training programme for 27,000 teachers in the early educational use of ICT and the necessary skills for an effective pedagogical use of the educational software and tools provided.

The goal for trainee teachers is:

- To understand the conditions concerning the educational use of ICT and to enhance the process of teaching and learning and the achievement of the goals set by the curriculum.
- To effectively use the potential provided by ICT in order to engage teachers and students in learning communities.
- To gain an overall view of the existing educational software and tools (internet, word processing/spreadsheet software, etc.) that can ensure the integration of ICT in the teaching process.
- To be able to use the educational software and special digital tools that are appropriate for their subject in order to understand the role of ICT during their educational activities in the classroom.
- To understand the concepts of an educational activity in order to be able to integrate it into their activities.

5.1. ICT IN INITIAL TEACHER EDUCATION

Initial teacher education includes ICT-related topics in order to provide general information for ICT use in classroom and on relevant ICT-related initiatives implemented in the country.

5.2. ICT IN IN-SERVICE TEACHER EDUCATION

The most important initiative for ICT in teacher education is provided within the framework of the **In-Service**

European Schoolnet

Training of Teachers for the Utilisation and Application of ICT in Teaching Practice project, which is being implemented by IEP and CTI-Diophantus.

The project covers the in-service training of 28,100 educators of Greek primary and secondary schools in the application of ICT in the classroom. The initiative involves two types of interrelated in-service training:

a. The in-service training of 27,500 teachers in the principles of the educational use and application of ICTs, and in the acquisition of skills, according to their individual subject domain, for the educational use of software and generic IT tools. In-service teacher training will take place in Teacher Training Support Centres throughout the country. In the specific cases of remote islands and hard to reach mountainous areas, as well as in Educational Departments where, for various reasons, the implementation of in-service training programmes is simply not possible (e.g. due to a very low number of interested teachers, lack of teacher trainers or Teacher Training Support Centres), blended learning programmes that combine distance learning sessions with a limited number of face-to-face learning sessions will take place.

b. The in-service training of 600 educators, who will become the teacher trainers of specific educational initiatives. These teacher trainers, along with the existing trainers in the B-Level Teacher Trainer Registry (teachers with advanced ICT skills), will provide the in-service training and support the acquisition of the skills and knowledge in the educational use and application ICT by B-Level teacher trainees.

The implementation of the educational initiative presupposes the development of curricula, training material and studies, as well as the design, organisation, implementation, monitoring and evaluation for the above types of training. It also involves the application of know-how and skills in the classroom, the support of teacher trainees, the certification of their acquired knowledge and skills in ICT and the development and operation of support structures for the organisation, implementation, monitoring, evaluation and control of the initiative.

The objectives of the initiative are:

- To prepare teachers for the challenges of the "knowledge and information societies", particularly in relation to the use and application of ICT in teaching practice.
- To organise in-service training programmes addressing educators in all regions of the country, according to a scalable degree of difficulty and added value, as outlined below:
  - Use of computer network services and digital educational material;
  - Actual use of educational software in the teaching process for various knowledge domains;
  - Fostering new attitudes towards the learning process, as described in the beginning of the section;
  - Applying the knowledge and skills acquired during training in the classroom.

5.3. NEW INITIATIVES

See section 2.

5.4. ASSESSMENT SCHEMES

Within the framework of the **In-Service Training of Teachers for the Utilisation and Application of ICT in Teaching Practice** project, a certification initiative of basic (A-level) and advanced (B-level) ICT skills is provided.

5.5. TRAINING OF TEACHER TRAINERS

See *Section 5.2.*

5.6. INCENTIVES

There is no specific action or initiative to motivate teach-

ers and foster a wider uptake of ICT in schools. However, the overall approach of the **Digital School** strategy relies on its aims to understand the conditions concerning the educational use of ICT and to enhance the process of teaching and learning and the achievement of the goals set by the curriculum. Furthermore, the teaching community encourages an effective use of the potential provided by ICT in order to engage teachers and students in learning communities.

5.7. ICT SUPPORTING INCLUSION

A training programme for special needs educators has been developed in order to train 3,500 teachers in ICT technology. Attention has been given to the educational use of special software and hardware for students with SEN.

Publisher: European Schoolnet (EUN)

Author: Pantelis Nikolaidis, The Hellenic Institute of Educational Policy (IEP)

Editor: Anja Balanskat, Katja Engelhardt (European Schoolnet)

Coordinator: Anja Balanskat (European Schoolnet)