


National research of good e-learning practices GREECE

National research will be conducted in all three project counties in order to identify good e-learning practices, advantages and disadvantages of ICT application in learning and teaching methods.

Please, list between 7 and 10 e-learning practices available in your country and fill a separate table for each one of them.

PRACTICE 1

Name/abbreviation	Greek School Network (GNS) 								
Type of practice	<ul style="list-style-type: none"> • E-Learning Service (http://e-learning.sch.gr) • Teleconference service (http://meeting.sch.gr) • Electronic Classroom service (http://eclass.sch.gr) • Educational Communities and Blogs (http://blogs.sch.gr) • Electronic school press (http://schoolpress.sch.gr) • Video services and live broadcasts (http://vod.sch.gr) • Communication and Cooperation Service (https://www.uc.sch.gr) 								
Institution/organisation/editor	Ministry of Education, Research and Religious Affairs (Greece)								
Usability	Free access								
Technical requirements	<p>The connection technologies used are ADSL (mainly), optical fibers and selected lines (rarely). Broadband in GSN is 98.9% and analytically:</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td>< 2 Mbps:</td> <td>159 (1.1%)</td> </tr> <tr> <td>2 - 10 Mbps:</td> <td>8.451 (60.1 %)</td> </tr> <tr> <td>10 Mbps - 100 Mbps:</td> <td>5.074 (36.1%)</td> </tr> <tr> <td>100 Mbps - 1 Gbps:</td> <td>380 (2.7%)</td> </tr> </table> <p>The main objective of GSN for the next five years is the further upgrade of the medium speed connections, ie. up to 20Mbps for speeds of at least 50Mbps (VDSL technology) and further school connections with optical fibers in order to meet the expanding needs of schools.</p> <p><u>Network Equipment</u> GSN is the largest public network in Greece in the number of users it serves. In particular, it interconnects and also connects in the Internet more than 15.000 schools, a community of</p>	< 2 Mbps:	159 (1.1%)	2 - 10 Mbps:	8.451 (60.1 %)	10 Mbps - 100 Mbps:	5.074 (36.1%)	100 Mbps - 1 Gbps:	380 (2.7%)
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	<p>1.350.000 students and 160.000 teachers. GSN applies modern web technologies and is one of the first five school networks in the world that adopted IPv6 protocol.</p> <p>GSN owns 91 nodes in all country capitals and in the largest Greek cities. The number of nodes is expected to reach 120 by the integration of the interconnection of GSN with the Metropolitan Optical Fiber Networks of Municipalities. The technical team of CTI that is responsible for the proper functioning of the backbone network manages more than 200 network devices daily. The average network traffic of GSN to the Internet is more than 4.5 GBytes daily.</p> <p>Recently, GSN upgraded its network infrastructures of the school complex of Grava (the largest in Greece), using the most modern optical and wireless technologies to serve more than 3.500 users.</p> <p><u>Main data center Equipment</u></p> <p>The computing infrastructure of GSN is equally stronger. Through this infrastructure GSN provides its services to more than 215.000 members (schools, administrative units, teachers, students, etc.)</p> <p>The main data center of GSN is located in Athens. Three other (of smaller capacity) data centers are located in Thessaloniki (one) and in Patras (two).</p> <p>The technical team of CTI that is responsible for the uninterrupted operation of data centers manages daily more than 100 servers and network devices.</p>
<p>Web address/ link</p>	<p>http://www.sch.gr/tieinaitoschmenu/eng#content</p>
<p>Users/ target group</p>	<p>Schools of Primary and Secondary education, including educational units abroad, services and entities supervised by the Ministry of Culture, Education and Religious Affairs at central and regional level, service providers of lifelong learning, students, teaching staff, other educators and other entities of Ministry of Culture, Education and Religious Affairs (www.minedu.gov.gr).</p>
<p>Brief description</p>	<p>The Greek School Network (www.sch.gr) is the national network of the Ministry of Culture, Education and Religious Affairs. Through GSN the Ministry of Culture, Education and Religious Affairs provides the educational community with e-learning services, communication and collaboration, e-government services as well as helpdesk and user support services.</p> <p>The main services of GSN are:</p> <p>Broadband Connection: In all public schools and administrative units free broadband connection is provided. The connection charges of public education units with GSN and Internet</p>

burdens the State Budget. The units abroad do not receive this service.

Portal: The portal of GSN <http://www.sch.gr> operates as an informational point for actions related to education and as a central point of access to GSN services. The main features of the portal are:

- News, announcements and events related to the educational community
- Instructions and manuals for services provided by the GSNP
- Personal websites of the members of GSN and other educational websites
- Access to the personal admin panel for each member of GSN
- Connection with other services of GSN

Central user authentication service: This is the most popular service of GSN and aims to the handling of users' emails i.e. schools, teachers, administrative units, administrators and students. Communication is secure and a series of modern features is provided such as viruses and spam protection etc.

Email Lists: The email listing service is designed for the easy handling of messages and documents to large number of users. This service is widely used by the Ministry and its regional structures for the handling of formal correspondence at schools.

Web Hosting: The Web hosting service gives schools, administrative units and teachers the opportunity to create and easily maintain their website.

Internet Safety: For GSN the safe access of students to the Internet and their protection against inappropriate content is a fundamental principle. Since 1999, GSN operates a content control service on the web and applies a secure content policy, in line with the international practices and legal requirements. GSN supports initiatives of Ministry of Culture, Education and Religious Affairs such as informing schools through online meetings from the Computer Crime Unit of the Greek Police. Specifically GSN provides teleconferencing and live broadcasting services for the implementation of online meetings and until today more than 10.000 schools have actively participated. Furthermore GSN (CTI) functions since 2006 the informative hub "Internet Safety" (<http://internet-safety.sch.gr>) through which reliable and targeted information, support and quality educational material for students and teachers is provided. Since 2013 GSN (CTI) participates as a national coordinator in eSafety Label action of the European Schoolnet. Through this action Greek schools can attain a special certification which aims to the support of schools in order to provide a safer online environment for teachers and students. Quantitative indicators

of eSafety Label bring our country in the first place in Europe. A complementary initiative of GSN is the action “Call an expert for Safe Internet” (<http://internet-safety.sch.gr/call-an-expert>), which offers schools the opportunity to call a certified instructor in safe internet issues to organize an event to inform and educate the school community. The body of experts consists of specially trained and certified teachers and education officials.

Teleconference service: The teleconference service (<http://meeting.sch.gr>) provides to the certified members of GSN (teachers, schools and administrative units) the ability to create conference calls. The administrator interface is fully localized, supports full audiovisual communication and allows presentation view, file and application sharing amongst participants. This service is in use in September 2014 and has been used in more than 10.000 schools in 36 teleconferences of Electronic Crime.

E-Learning Service: The e-learning service (<http://e-learning.sch.gr>) of GSN is based on the world’s leading Learning Management System Moodle. It provides a convenient interface through the internet which promotes participative and collaborative learning. It supports distinct user roles and provides secure and personalized access through its integration with GSN directory service. This service has been certified according to SCORM LMS-RTE STANDAR and it is completed with the teleconferencing and synchronous e-learning system Big Blue Button.

Electronic Classroom service: The Electronic Classroom service (<http://eclass.sch.gr>) is addressed to teachers and students of primary and secondary education and enriches the course that takes place daily in the classroom with modern educational ICT tools. The teacher can create online courses and fully interact with his/hers students. This service can also be used for training, collaboration etc. between teachers.

Educational Communities and Blogs: Blogs and social networking are second generation digital tools (Web 2.0), which are used in the educational process because of their interactive and collaborative offering. The GSN provides the service of Educational communities and blogs (<http://blogs.sch.gr>) through the open source platform WordPress. A key feature is that the GSN service provides equivalent functionality to those of public social networks (Facebook, twitter etc.) but in a completely secure environment where all members are certified.

Electronic school press: The Electronic school press service (<http://schoolpress.sch.gr>) based on the open source platform WordPress and addressed to teachers and students of Primary

and Secondary education and enriches the classical teaching process with group collaboration tools and with the publication of a group's activity. Students are encouraged to express themselves, develop and evolve their skills in writing.

Video services and live broadcasts: The video service (<http://vod.sch.gr>) provides the ability to search, post and play video with modern tools. It allows users who post material, to enter metadata while offering a personalized service to all certified members of GSN. High definition videos are supported from different devices. This service is offered to schools and teachers who can also create their own radio and tv channels and their own groups in which video material is distributed only amongst its members. An important feature of the service is the live broadcasting (<http://vod.sch.gr/live>) which regards to the live broadcasting to the school community as well as online events organized by the Ministry of education, supervised entities or schools. The service is very popular and more than 90 events broadcasted live during the latest three years.

Communication and Cooperation Service: The communication and cooperation service (<https://www.uc.sch.gr>) offers schools and teachers with calling options, either with voice or video, telephone conference between multiple users, sending voice messages (voice mail), receiving fax with automatic forwarding to email, instant messaging and marking presence feature. The major benefits of using this service are:

- Cutting down on resources, as communication between users is free.
- Facilitating communication and collaboration between users.
- Creating conditions for the utilization of services as a modern educational and collaboration tool between students and teachers.
- Upgrading telephone support services provided to GSN (helpdesk).

User Support (Help-Desk): for the immediate resolution of any technical problem encountered in connection, provided services and their use. Provided via telephone: 801.11.801.81 (9.00 - 17.00 daily, except holidays), via email / fax and through a change management system <http://www.sch.gr/helpdesk>. The user support service is provided by all partners and a total of about 120 engineers and technicians are dedicated to it nationwide. User support service carries out a vast number of tickets regarding requests for technical support in school's ICT infrastructures and requests for GSN services submitted by schools.


SWOT

Strengths

- GSN is the official and exclusive network and services

	<p>provider for the units (schools/administrative units) of Public Primary and Secondary Education.</p> <ul style="list-style-type: none"> • GSN also certifies all members of school community (schools, administrative units, teachers, students and administrative staff). The service of safe user authentication is being utilized by the Ministry of Culture, Education and Religious Affairs and regulated entities for the provision of specialized electronic services. • The GSN as a public network is working closely and harmoniously with the other two national networks GRNET (www.grnet.gr) and SYZEFXIS (www.syzefxis.gov.gr) and plans the next day (in terms of access) which will be the transition of school's circuits to the, under construction, Public Sector Network. • Since 2011, and in accordance with article 32 of N3966/2011, the administration and management of GSN is performed by CTI. For this purpose CTI established the Greek School Network and Networking Technologies Directorate (http://nts.cti.gr), which cooperates with Universities and Technical colleges with specialized networking groups. These entities both support the school/administrative units of their region and some of them develop and support specific web and online services. <p>Weaknesses</p>
<p>Other comments</p>	<p>Interconnection with European Actions and International Awards.</p> <p>The GSN has received the following international references and distinctions.</p> <ul style="list-style-type: none"> • Greek school network increasingly turning to open source (2014) https://joinup.ec.europa.eu/news/greek-school-network-increasingly-turning-open-source • Greek school network adopt IPv6 (2007) http://cordis.europa.eu/result/brief/rcn/3467_en.html • Networking students and teachers in Greece (2004) http://ec.europa.eu/employment_social/esf/docs/el2_1_en.pdf

PRACTICE 2

Name/abbreviation	Photodentro LOR  Photodentro LOR <small>LEARNING OBJECT REPOSITORY</small>
Type of practice	Repository with explorations and inquiry-oriented activities, dynamic simulations and experiments, educational games, presentations, short-length educational videos, interactive exercises, interactive maps as well as simple learning assets.
Institution/organisation/editor	Ministry of Education, Research and Religious Affairs (Greece)
Usability	Free access
Technical requirements	Ipad, Tablet, Desktop PC, Notebook, Netbook
Web address/ link	http://photodentro.edu.gr/lor/?locale=en
Users/ target group	Primary schools, secondary school, educational centers, teachers and students, parents, public
Brief description	<p>Photodentro LOR is the Greek National Learning Object Repository (LOR) for primary and secondary education. It has been designed and developed by CTI in the context of the “Digital School” large scale program of the Greek Ministry of Education (2010-2015) and it constitutes a core part of the Ministry’s digital infrastructure for educational content for schools.</p> <p>It supports browsing, free text search, and faceted search, allowing users to narrow search results by applying multiple filters, such as learning resources type, educational context, etc.</p> <p>It currently hosts more than 4,000 learning objects, organized in thematic or other collections. Most of them have been developed by around 120 qualified teachers, in ten domain-specific workgroups, in the process of enriching Greek textbooks with digital interactive resources. Each group operated under the supervision of a coordinator, an academic with significant domain and pedagogical expertise, to ensure quality. In an attempt to make the most of previous publicly funded projects, the next population phase of Photodentro LOR focuses on open learning objects that can be extracted from existing educational software and learning scenarios developed during the last decade.</p>

SWOT

Strengths

- Almost all learning objects are “click-and-play”, i.e. they can be directly reproduced in web browsers.
- All learning resources are freely available to everyone under the Creative Commons’ Attribution-NonCommercial-ShareAlike license.
- Photodentro LOR (photodentro.edu.gr/lor) is the first repository in the Photodentro educational repository ecosystem, which also includes the Photodentro EduVideo (photodentro.edu.gr/video), hosting short-length educational videos, and the Photodentro e-yliko, supporting user-generated content (photodentro.edu.gr/ugc).
- Photodentro will also be linked to the Digital Educational Platform “e-me”, thus facilitating teachers and pupils in utilizing learning resources and incorporating them within learning scenarios and courses.


Weaknesses

Other comments

Photodentro LOR name has been carefully selected to convey the message of what Photodentro is: a repository that contains “knowledge”; it is alive and grows like trees (in contrary to archives); and it is Greek. The word “Photodentro” means “Light Tree”, and it is taken from the title of the poetry collection “The Light Tree and the Fourteenth Beauty” (1971) of the greek Nobel prize winner Odysseas Elytis.



PRACTICE 3

Name/abbreviation	 OpenDelos Rich Media & Lecture Platform for Education
Type of practice	Rich media and learning platform
Institution/organisation/editor	Greek Academic Network (GUnet)
Usability	Free access
Technical requirements	<p>Hardware Recommendations</p> <p>OpenDelos is written in Java, it will therefore run on any Operating System (Linux, Windows, Mac OSX). OpenDelos is built on top of free, open-source tools, such as the Apache Web server, the Tomcat Servlet engine, Spring Framework and the eXistDB native XML database system. For your convenience, we package the necessary JDBC and other drivers and libraries together with OpenDelos. This set of tools should run on any UNIX-type OS, such as Linux, HP/UX, or Solaris, and you can substitute other libraries if you need to run on another platform. There are a few general recommendations for hardware architectures. In a production setting where OpenDelos is actively used in public, OpenDelos requires a reasonably good server (see below) and a decent amount of memory and disk storage.</p> <p>For such production usage, following requirements are meant as a guideline:</p> <p>Recommended minimum production system requirements</p> <ul style="list-style-type: none"> • 4 GB of Random Access Memory (RAM) <ul style="list-style-type: none"> ○ 3GB for Tomcat (e.g. "TOMCAT_OPTS=-server -Xms3096M -Xmx3096M -XX:MaxPermSize=128M -Dfile.encoding=UTF-8") ○ 1GB for Database (eXistDB). • Decent amount of Storage (or roughly enough storage for all the files you wish to store in OpenDelos) <p>An empty installation of OpenDelos will effectively require less than 500MB of storage. The storage estimates are very rough. The actual amount of storage you will need depends on the size of the files you plan to store in OpenDelos. Files are not compressed in any way, so at a bare minimum you need enough space to store all of your files, plus some extra space for database storage and logfiles. You also will need to be prepared to add additional storage space as you add more content to OpenDelos.</p>

	<p>Staging Server</p> <p>Once you are running OpenDelos in a production environment, it is highly recommended to run a separate, second instance of OpenDelos on a test or staging server. Any OpenDelos upgrades, customizations or other modifications can first be evaluated on this staging server before you move to production. If the actual testing is carried out by only a few people, your staging server will not experience the same levels of load as your production server. Therefore, you can bring down the system requirements for your staging server, even below the above minimum requirements.</p> <p>To make sure that your staging environment is a realistic simulation of your production server, it is recommended to mirror as much settings or configuration as possible. Needless to say, a staging server on windows will not provide reliable testing outcomes if your actual production machine is running linux and vice versa.</p> <p>To simulate higher levels of load on your staging server, you can use free tools like JMeter.</p> <p>Software Requirements</p> <p>Ubuntu 14.04 LTS Desktop or Server</p> <ul style="list-style-type: none"> • Download at: http://www.ubuntu.com/download/ <p>Apache Tomcat Version 7</p> <ul style="list-style-type: none"> • Included in OS packages • Oracle Java 7 <p>ffmpeg</p> <ul style="list-style-type: none"> • Download at ... see instructions <p>H264 Streaming Module for Apache2</p> <ul style="list-style-type: none"> • Download at... see instructions <p>eXist-db Open Source Native XML Database Version 2.1:</p> <ul style="list-style-type: none"> • Download from: http://exist-db.org/exist/apps/homepage/index.html
<p>Web address/ link</p>	<p>http://opendelos.org/?page_id=21462&lang=en</p>
<p>Users/ target group</p>	<p>Teachers and students of Greek universities and technological institutes</p>
<p>Brief description</p>	<p>OpenDelos serves as a tool for the management of educational videos produced under the framework of the “Central Repository of Greek Open Courses” initiative.</p> <p>It implements the relevant tools for supporting the following activities:</p> <ul style="list-style-type: none"> • Video lecture production • Video and presentation processing • Vich-player play back

SWOT

Strengths:

1. The major **functionalities** of the platform are:
 - Scheduled recording of video lectures by remote management of installed cameras
 - Management and processing of produced video material
 - Syncing of video to presentation slides
 - Publishing of synced video lectures through a rich player on the web
2. The three main **scenarios** that are supported by the platform for lecture production are:
 - In-class installed, fixed camera ([IP camera recording](#))
 - Camera crew with mobile equipment ([mobile recording](#))
 - Sound recording of lecture ([podcasting](#))
3. After initial recording, the material can be processed with **online tools**:
 - Video editor for trim and cut operations
 - video sync editor for sectioning video and associating to slides
4. Finally, **publishing** of material through:
 - Central portal for search of aggregated and indexed lecture metadata
 - Rich player for video lecture reproduction

The published lectures on OpenDelos are closely tied to the respective course material hosted on Open eClass, the associated learning management system. The student can leverage the full material available for the course, both recorded lectures and LMS hosted activities. The two platforms provide live feeds of course metadata to the national aggregator portal, which offers a search interface at a national level for all indexed courses of participating institutions.

Weakness:

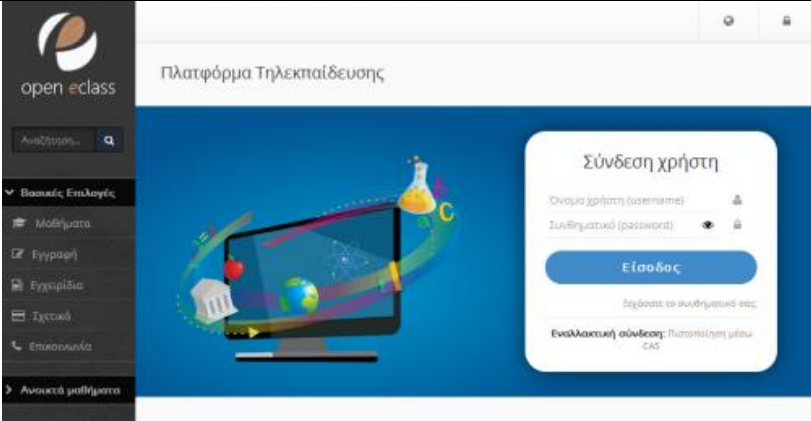
The OpenDelos platform is still under development (<http://docs.opendelos.org/display/ds/Welcome+to+OpenDelos>). The first beta version is available to all academic institutions participating in the Greek Open Courses initiative.

Other comments

The goal and ambition of the "[Central Repository of Greek Open Courses](#)" project is to enhance and further facilitate the exploitation of disruptive Internet technologies by institutes and faculty members in order to offer high quality, based on international standards and practice, educational material which could upgrade the teaching procedure, highlight the social role of educational institutes and promote their teaching output at an international level.

PRACTICE 4

<p>Name/abbreviation</p>	 open eclass Open eClass platform
<p>Type of practice</p>	<p>E-learning platform</p>
<p>Institution/organisation/editor</p>	<p>Greek Academic Network (GUnet)</p>
<p>Usability</p>	<p>Free access</p>
<p>Technical requirements</p>	<p>The Asynchronous Open eClass 3.2 eLearning platform has been tested and operates well in:</p> <ul style="list-style-type: none"> • Ms Windows environments (Windows 2000, Windows XP, Windows 2003, Windows Vista, Windows 7, Windows 2008). • MacOS X. • Various Linux distributions (e.g. RedHat, CentOS, Debian, Ubuntu, OpenSuse etc) • Other UNIX environments (e.g. Solaris). <p>Current version of Open eClass DOESN'T include database administration tool phpMyAdmin. If you wish, you can copy folder (path του eclass)/modules/admin/mysql/ in a temporary folder (e.g. /tmp). After upgrade has completed you can restore it to its previous location. Otherwise you can download latest version from here. Installation instructions are provided here</p>
<p>Web address/ link</p>	<p>http://demo.openecclass.org/ http://www.openecclass.org/en/distribution/</p>
<p>Users/ target group</p>	<p>Educational institutions, organizations, institutes and enterprises, teachers and students</p>
<p>Brief description</p>	<p>Open eClass (ver.3.3) The Open eClass platform is a complete Course Management System, used to store and present educational materials. It is the solution offered by the Greek Academic Network (GUnet) to support asynchronous elearning services. Its goal is the incorporation and constructive use of the Internet and web technologies in the teaching and learning process.</p>

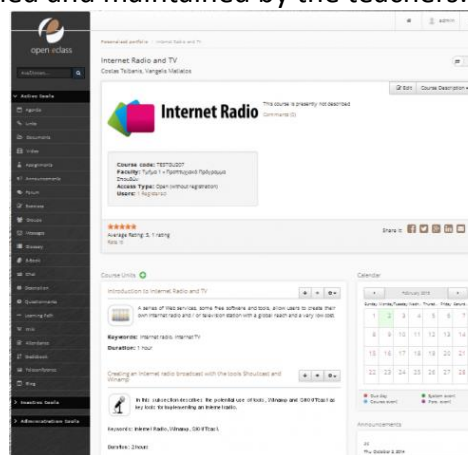
	 <p>The Open eClass platform has been designed to either provide an alternative way of teaching and learning process. Teachers are able to quickly organize practical on-line courses, making use of existing educational materials: texts, documents, presentations, pictures, video, exercises and so on. Students themselves can access provided materials via an alternative channel.</p> <p>The Open eClass platform is available as open source software. Its design principles include ease of use by end users without specialized technical skills, multilingual support, adaptability to current and future demands, and simple software upgrade and extension. The service is accessible via any web browser.</p>
<p>SWOT</p>	<p>Strengths:</p> <ul style="list-style-type: none"> • It is distributed for free to educational institutions, organizations, institutes and enterprises. • Its source code is freely available and can be customized according to specific needs and requirements. • It adapts to different hardware devices, from conventional desktops and laptops to tablets and smartphones. Open eClass mobile apps are also available. • It is used by the majority of universities and technological institutes in Greece. • It allows the user to organize, store and distribute educational materials, including multimedia content. • Communication, information and collaboration tools are provided through the platform. <p>Through the platform one is able to:</p> <ul style="list-style-type: none"> • develop and manage unlimited online courses • create self-assessment quizzes and online tests • create a sequence of steps with independent learning objects • view statistics, track learners' participation and progress, create surveys and reports • organize, store and distribute educational resources

- create, manage and grade online assignments
- manage users and form groups to support collaborative learning
- use learning objects authored in all standard course authoring tools
- add, organize, store and embed multimedia files
- upload, manage and present eBooks in HTML format
- choose from a variety of communication tools (teleconference, chat, forum, messages)
- safeguard the content of the course in case of accidental deletion or corruption

The distribution of the first version (1.0) of the platform was launched in 2003. Ever since many new versions of the platform have been designed and developed as an offer to the educational and academic society to enhance the teaching and learning process. Today Open eClass constitutes a self-contained platform that bears little resemblance to its original source. Indeed, the Open eClass 3.0 was launched in April 2015 and it supports the open digital courses, in combination with the Open Delos platform and the National Repository

The eCourse is the core part of the Open eClass platform. Each eCourse is an autonomous entity which integrates a number of learning tools. More specifically, each eCourse consists of the following learning tools - components which can be enabled and maintained by the teachers:

Other comments





Course Home

1. **Agenda**, presents crucial course events in time order (lectures, meetings, etc)
2. **Documents**, educational materials available to students (documents, presentations, images ,etc)
3. **Announcements**, concerning the course; they can be optionally e-mailed to students

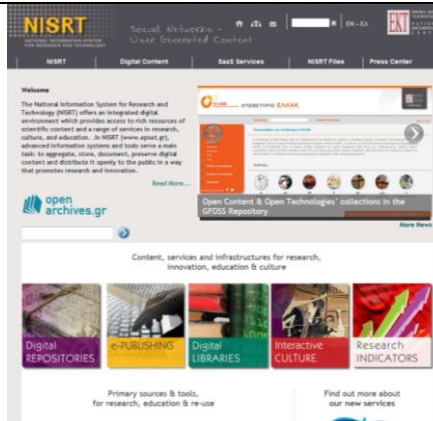
4. **Forums**, where students can participate in conversation groups and exchange opinions on various aspects of the course
5. **Groups**, open or closed, consist of users registered to the course (students and teachers)
6. **Links**, on the web to resources relevant to the aspects of the course
7. **Student Assignments**, where students can submit work done in response to assignments set forward by the teacher
8. **Self-evaluation Exercises**, created by the teacher, allowing students to practice and test their knowledge
9. **Course Description**, presents information about course goals, structure, teachers in charge, etc.
10. **Glossary**, space for adding and managing the terms contained in the course.
11. **E-Book**, a module for uploading and presenting electronic books in HTML format
12. **Multimedia**, where recorded lectures or other multimedia files can be stored and presented to students, either as multimedia files or as external links to multimedia recourses
13. **Learning Path** allows teachers to organize their educational material and students to follow a sequence of learning activity steps (SCORM)
14. **Wiki**, where course participants collaborate on documents, allowing everyone to edit document pages while maintaining full history of changes
15. **Teleconference**, combining real-time on-line conversations, and message exchange
16. **Questionnaires**, which can be used for polls and learning profile surveys
17. **Drop Box**, is a file and messaging exchange area for students and teachers
18. **Course Administration Tools**, allowing teachers to configure course information (title, keywords, etc.), control eCourse access settings, renew or delete the eCourse, manage registered users, view usage statistics and activate / deactivate eCourse learning tools.
Course units offer a flexible way to organize educational material that is stored in the course learning modules in an articulate structure.

PRACTICE 5


<p>Name/abbreviation</p>	  <p>Εθνικό Πληροφοριακό Σύστημα Έρευνας και Τεχνολογίας (ΕΠΣΕΤ) National Information System for Research and Technology (NISRT)</p>
<p>Type of practice</p>	<p>Digital Library Services: National Union Catalog of Serials of the Greek Scientific Libraries, personalized scientific information services, electronic ordering of scientific content etc.</p> <p>Social Networking and User Generated Content Services addressing modern educational and informational needs.</p> <p>E Research tools, Application and Services to increase the effectiveness of research activity and educational procedure.</p> <p>Digital Repositories Services in culture and in science: providing open content for the research, academic and business world.</p> <p>E-publishing Tools and Services: e journals, e-books, conference proceedings and a range of digital material addressed to research, academic and business agents.</p> <p>Services for Monitoring, Mapping and Evaluating Research Activity: metrics and indicators for Greek research activity, services for the documentation of scientific output in humanities and social sciences, Current Research Information Systems (CRIS)</p> <p>Horizontal Digital Services: such as user's Helpdesk, services for mobile users, etc.</p>
<p>Institution/ organisation/editor</p>	<p>National Documentation Centre (EKT) (http://www.ekt.gr/en/index.html)</p>
<p>Usability</p>	<p>Free access</p>
<p>Technical requirements</p>	<p>Policies for research e-Infrastructures are implemented through the Operational Program "Digital Convergence" which also funds NISRT. In a constantly changing socio-economic environment, NISRT meets the ever-expanding requirements and technological challenges (e.g. broadband, technological convergence, modern information systems), adheres to international standards of performance and develops integrated actions on key issues in research, education and innovation.</p>

Web address/ link	www.epset.gr
Users/ target group	Academic and research community, organizations and bodies in education, research and technology, citizens and various user groups
Brief description	<p>The National Information System for Research and Technology (NIRST) offers an integrated digital environment which provides access to rich databases of scientific content and a range of services to the country's scientific, educational and business community.</p> <p>In the heart of NIRST's evolution lies the realization that open access to digital information is vital for modern societies, a source of inspiration and creativity and a building block for societal and economic development. In NIRST advanced information systems and tools serve a main task: to aggregate, store, document and manage digital content and distribute it openly to the public in a way that promotes research and innovation.</p>
SWOT	<p>Strengths</p> <p>Today, free access to reliable certified digital content has become an increasingly necessary condition for collective progress. NIRST addresses critical aspects related to digital content, its long term preservation through sophisticated information systems, its distribution as a public good and its exploitation for the benefit of the research world. Recently, attention has been focused on issues related to the exploitation of research results, the production of user generated content and the promotion of scientific networking. With an aim to develop and expand digital content available to Greek citizens, NIRST empowers users to create and add digital content themselves, use it and reuse it for the benefit of research and education. Following international trends and adhering to the values that support open access to knowledge, infrastructures and information systems in NIRST, are continuously evolving in terms of content, operationability and technological affordances. As a result, NIRST aims to become a portal (e-Infrastructure) of national scale which grants access in valuable digital content for the benefit of education, research, and culture.</p> <p>Weaknesses</p>

Other comments




PRACTICE 6

Name/abbreviation	 Natural Europe educational collections
Type of practice	<ul style="list-style-type: none"> • Natural Europe Pathway Authoring Tool (Open source instrument to build educational environment) • Repository of Educational pathways and resources
Institution/ organisation/editor	Greek Research & Technology Network
Usability	Free access
Technical requirements	Ipad, Tablet, Desktop PC, Notebook, Netbook
Web address/ link	http://www.natural-europe.eu/educational/
Users/ target group	Schools of Primary and Secondary education, educational centres, teachers and students, parents, public
Brief description	<p>The educational pathways were produced in the framework of the project Natural Europe (www.natural-europe.eu), using Natural History digital content and cultural heritage for Education.</p> <p>The educational pathways or routes or scenarios approach various topics in an integrated and interdisciplinary way.</p> <p>The project Natural Europe has involved six (6) Natural History Museums of Europe. In its framework the following products have been developed:</p> <ul style="list-style-type: none"> • A digital library of Natural History with rich photographic material from the above Museums, available to the educational community. Teachers have the opportunity to use material in order to enrich their educational paths. • Various educational paths that are developed from the above NHM and which are also available to the educational community. All the above are to be offered through the websites of participating NHM and science centres. <p>The design of educational pathways is based on innovative pedagogical approaches and methodologies. All activities provided are based on Collaborative and</p>

	<p>Creative Learning. Learning through educational paths is the result of a learner-centered learning process, while the teacher has the role of facilitator.</p>
<p>SWOT</p>	<p>Strengths</p> <ul style="list-style-type: none"> • The website is particularly intricate, friendly and attractive to visitors. • These integrated lesson plans with detailed instructions for their application brought to the center of learning the student and the teacher in the role of facilitator. The exploratory manner of learning allows students to think, to reflect, to inform and to form their own opinion on the matter. <p>Weaknesses</p> <ul style="list-style-type: none"> • Navigation is not really functional. As you go down to the page to have a general idea, is not easy to pass to the next page. You should be back again at the top of the page and choose the next one. It is not clear in which page you are. • It makes no particular reference to children with disabilities or dyslexic children
<p>Other comments</p>	

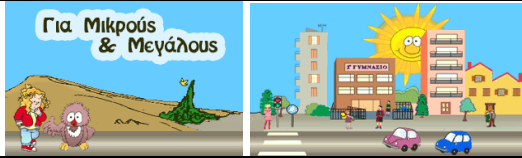


PRACTICE 7

Name/abbreviation	
Type of practice	Model of web awareness campaigns, web tools, cartoons, web based edu-games
Institution/ organisation/editor	Foundation of the Hellenic World
Usability	Free access
Technical requirements	Ipad, Tablet, Desktop PC, Notebook, Netbook
Web address/ link	http://www.fhw.gr/imeakia/index.html
Users/ target group	Schools of Primary and Secondary education, educational centres, teachers and students, parents, public
Brief description	<p>The Imeakia is a childhood node FHW which consists of games, newspaper, comics, etc. In the category of games there is the option “Dance of the land” referring to earthquakes. The children choose various places like the school hall, their room, the street and so on. They also choose the right answer to the question “what we do in the case of earthquake?” according to their opinion. The next game refers on what we should have at home in case of an earthquake. Children have to choose among several objects the most important and necessary for them in order to face difficulties and accidents in case of an earthquake.</p> <p>And finally, children learn basic concepts of the earthquake such as earthquake focus, epicenter, fault, seismic waves and earthquake magnitude and watch the related images.</p>
SWOT	<p>Strengths</p> <ul style="list-style-type: none"> • Colourful and stylish website, friendly and very attractive for children with rich educational content and creative educational interactive games. • Well-designed interactive web page, with easily understandable content, attractive to children. Easy and simple to use. The children have a lot of choices like games, newspaper, commix. <p>Weaknesses</p> <ul style="list-style-type: none"> • It makes no particular reference to children with disabilities or dyslexic children.

Other comments



PRACTICE 8

<p>Name/abbreviation</p>	
<p>Type of practice</p>	<p>Cartoons, animations and video game with interactive educational content</p>
<p>Institution/ organisation/editor</p>	 <p>Earthquake Planning and Protection Organization (EPPO)</p>
<p>Usability</p>	<p>Free access</p>
<p>Technical requirements</p>	<p>Ipad, Tablet, Desktop PC, Notebook, Netbook</p>
<p>Web address/ link</p>	<p>http://kids.oasp.gr/</p>
<p>Users/ target group</p>	<p>Schools of Primary and Secondary education, educational centres, teachers and students, parents, public</p>
<p>Brief description</p>	<p>It is a kids' part in the web-site of the Earthquake Planning and Protection Organization (EPPO), where students could find Information about the correct behavior in case of disasters and the rules of preventions, as well as scientific information about the disaster for children trough games and fun.</p> 
<p>SWOT</p>	<p>Strengths</p> <ul style="list-style-type: none"> • The presenting information is attractive and fun with a big variety of games (puzzles, crosswords, etc). • The educational material consists of a lot of attractive and vivid games with interesting dialogues and animation. • Content is corrected, comprehensible and

	<p>understandable and the language is simple. The games complement knowledge in a constructive way.</p> <p>Weaknesses</p> <ul style="list-style-type: none">• In the video presentation (eg Earth and earthquakes) there is no information about the purpose and the content of the video. The provided help let the user know whether the given answer is correct or not, but there is no information that could help him-in the case of a wrong answer-to go on and have another new chance.• In the video presentation (eg earthquakes and Earth) there are no control buttons during playback so that the user can skip some video if not interested. In section 'Greece and earthquakes' there are no information in text form.• The aim of each activity is not given, nor the expected results. The games are 'drill and practice' that do not allow self-motivated and active learning in children• It makes no particular reference to children with disabilities or dyslexic children.
Other comments	

Findings and conclusions

Describe the context, list any findings, tendencies and patterns in your country. Provide any additional information that may be useful for the final report and for the EFES project further implementation.

The best practices have been collected in relation to web and learning tools, repositories and e-learning platforms addressed to the Greek educational community.

In general, tools are well structured and presented. The topics are well described and their scientific adequacy is at high level. The pedagogical approach and quality are sufficient for the target groups of users, the design of websites is friendly and useable and the educational units are attractive and well presented. In addition, some of the tools have received awarding from EU authorities indicating the high quality and effectiveness of the tools.

It may be concluded that the goal of educational units to enhance the educational community's cultural competency has been achieved. When learning is applied, learners' new skills and knowledge have been developed, and new abilities have been reinforced. Additionally these tools are an effective way of ensuring learners to follow-up their training with relevant actions to apply, improve, develop and reinforce learning.

List of best practices in Greece

	Title	Type of practice	Entity	Target group
1	Greek School Network (GNS)	E-Learning Service Teleconference service Electronic Classroom service Educational Communities and Blogs Electronic school press Video services and live Communication and Cooperation Service	Ministry of Education, Research and Religious Affairs (Greece)	Schools of Primary and Secondary education, including educational units abroad, services and entities supervised by the Ministry of Culture, Education and Religious Affairs at central and regional level, service providers of lifelong learning, students, teaching staff, other educators and other entities of Ministry of Culture, Education and Religious Affairs
2	Photodentro LOR	Repository with explorations and inquiry-oriented activities, dynamic simulations and experiments, educational games, presentations, short-length educational videos, interactive exercises, interactive	Ministry of Education, Research and Religious Affairs (Greece)	Schools of Primary and Secondary education, educational centres, teachers and students, parents, public

		maps as well as simple learning assets		
3	OpenDelos Rich media and learning platform	Rich media and learning platform	Greek Academic Network (GUnet)	Teachers and students of Greek universities and technological institutes
4	Open eClass platform	E-learning platform	Greek Academic Network (GUnet)	Educational institutions, organizations, institutes and enterprises, teachers and students
5	National Information System for Research and Technology (NISRT)	Digital Library Services Social Networking and User Generated Content E Research tools, Application and Services Digital Repositories Services E-publishing Tools and Services Services for Monitoring, Mapping and Evaluating Research Activity Horizontal Digital Services	National Documentation Centre (EKT)	Academic and research community, organizations and bodies in education, research and technology, citizens and various user groups
6	Natural Europe educational collections	Natural Europe Pathway Authoring Tool (Open source instrument to build educational environment), Repository of Educational pathways and resources	Greek Research & Technology Network	Schools of Primary and Secondary education, educational centres, teachers and students, parents, public
7	Ιμεάκια (Imeakia)	Model of web awareness campaigns, web tools, cartoons, web based edu-games	Foundation of the Hellenic World	Schools of Primary and Secondary education, educational centres, teachers and students, parents, public
8	Για μικρούς και μεγάλους (Gia mikrous kai megalous)	Cartoons, animations and video game with interactive educational content	Earthquake Planning and Protection Organization (EPPO)	Schools of Primary and Secondary education, educational centres, teachers and students, parents, public