

Using eLearning to Promote Key Competences – Good Practice Cases

1. Introduction

1.1 Background

The nine cases listed below are examples of good practice in eLearning as used to promote key competences. They are extracted from the 'Compendium on Good Practice Cases on eLearning' edited by the Members of the ICT Cluster and the Danish Technological Institute (for the full report see www...eu). The Compendium is intended to serve as inspiration and to promote peer learning and knowledge exchange.

The good practice cases in the Compendium are national policies initiated with a view to improving the use of eLearning in European countries. They have been categorised along the following dimensions:

- Learning Management System

Learning Management System (LMS) is a system where the software tools are designed and integrated into the training process in order to manage user learning interventions.

- New Learning Environment

New learning environments do not only integrate ICT into the existing learning environment and therefore create ICT-enhanced systems, but also drastically alter results as a consequence of integrating ICT at an early development stage of such systems.

- E-skills (digital competence)

The development of e-skills amongst teachers and students is gaining increasing awareness as a key element of implementing a successful e-learning strategy, and for the optimal use of new digital and collaborative learning environments in education and training.

- Digital Literacy

Digital literacy is a set of competences that enables the individual to improve their life chances and quality of life. It is commonly understood that digital literacy and e-competences improve access to services (including public services) and enable individuals to better cope with everyday life situations.

- National Strategy/Reform

This dimension refers to national eLearning strategies or reforms for the entire educational system in a given country.

1.2 Selection of good practice cases

The 43 cases in the Compendium have been selected by the countries participating in the ICT Cluster managed by DG Education and Training. Good practice cases have been defined as cases that fully or substantially achieve their own objectives, have beneficial impacts on the learning environment and provide useful learning points and lessons for other Member States and European countries. The cases have been assessed using the following criteria

- Managing e-Learning implementation

- Use of ICT
- Innovativeness
- Real practical results and impact
- Functionality
- Visibility
- Valuable learning points and transferability

1.3 Good practices cases and key competences

The key competences referred to in the good practice cases are

- Communication in mother tongue
- Communication in foreign languages
- Mathematical competence and basic competences in science and technology
- Digital competence
- Learning to learn
- Cultural awareness

2. Good practice cases

2.1 Learning to learn

Title of the initiative	House of Future - School of Future Digital storytelling
Country	Hungary
Key competences	<ul style="list-style-type: none"> • Learning to learn • Digital competences
Category	New Learning Environment
Contact details including web links	Jövö Háza Központ Kht. Tamás Barát 1026 Budapest Kis Rókus u.16-20 www.millenaris.hu/jovoiskolaja www.diok.hu
Start and end-date	01/10/2007-01/07/2008
Objectives of the initiative	To teach students the appropriate and effective use of computers.
The motivation of the initiative	The overall motivation was to improve students' knowledge and relevant skills by using ICT tools.
Level of implementation	National
Target group	Students, teachers
Budget	Not available
Participants	Schools
Short description of the project	The goal is to popularize digital storytelling, an educational method currently unique to educational institutions in Hungary. Participants are introduced to the necessary theoretical knowledge and methodology. During a workshop, participants create short digital films as a demonstration of self-directed learning. They also get a digital toolkit they can take home and use independently in the future.
Methods applied to reach the objective (technological and/or pedagogical)	Self-directed learning, co-operation, team work, group work, project work.
Implementation (actions taken to ensure implementation)	During the training course participants are introduced to the basics of digital filmmaking. Initially a storyboard is written based on a story chosen by the participants, followed by the creation of a short film using Windows Movie Maker software. All films are viewed and evaluated by the entire group of participants.
Specific results	5000 students/year
Impacts	Not available
Lessons learnt	Not available

Category	National Strategy/Reform
Title of the initiative	Malta National eLearning Strategy

Country	Malta
Key competences	<ul style="list-style-type: none"> • Learning to learn
Contact details including web links	Not available
Start and end-date	2007-2010
Objectives of the initiative	To provide a strategic direction and a roadmap for the development of eLearning in Malta.
The motivation of the initiative	To develop a strategic approach seeking to bring all stakeholders together to take education to the next level in which technology is embedded in learning with clear objectives of improving learning. For all learners this means access to personalised, flexible learning content and opportunities.
Level of implementation	National
Target group	Students in primary and secondary schools (6 year-old to 18 year-old students)
Budget	First year of piloting: € 90,000
Participants	Ministry of IT, Ministry of Education, Internet Providers & Shireland Collegiate Academy, U.K.
Short description of the project	The action plan is built through the three strategic directions of infrastructure, skills and content. In 2008 the project is to be piloted in three schools after which tenders for a learning platform will be issued.
Methods applied to reach the objective (technological and/or pedagogical)	For the technological part new computers 10Mbits have been deployed. Teachers have been trained so that they can train other teachers. Selection of an eLearning champion in each school for support.
Implementation	A strategic plan for the next three years has been drawn. Cabinet approval.
Specific results	Pilot = 1,500 Students as users.
Impacts	Too early to assess
Lessons learnt	Too early to assess

Title of the initiative	Future Learning – the successful next development of the eFit – Initiative
Country	Austria
Key competences	<ul style="list-style-type: none"> • Learning to learn
Category	Learning Management System
Contact details including web links	IT/eLearning steering group of the Ministry of Education, H. Strohmeyer, C. Dorninger et al. Web links: www.bmukk.gv.at/schulen/fl/futurelearning.xml http://www.schule.at/index.php?url=news&news_id=4517
Start and end-date	Start: 2 October 2007; end: October 2010.
Objectives of the initiative	<p>“FutureLearning” intends to open up a connection for all pupils, students and teachers to web-driven communication and learning tool (this could be defined as Mobile Computing Interface) and to adjust learning opportunities to a reasonable learning and school environment.</p> <p>Three objectives:</p> <ol style="list-style-type: none"> 1. New methods of learning and elearning 2. Creativity and learning 3. Mobile computer interface for all students

The motivation of the initiative	The internet loses its pure “publication” function because of newly developed portals, and it is becoming interactive. The web is changing within a very short period of time not only in a technical way but also in all areas of application, and especially in using the net. With the next steps of “social software” and “Web 2.0” the internet is changing to a distributed net. In contrast to other mass media, it is very easy in a “web by users for users” not only to be recipient but also appear as sender and author of messages to an infinite number of users.
Level of implementation	National programme in Austria including all school and adult education sectors and all educational actors; follows “eFit”.
Target group	Pupils and school students from 6 to 19; adult learners; teachers and special target groups (isolated children and children in hospitals – project IICC, pupils with migration background, mentally and physically disabled pupils).
Budget	15 Mio € over 4 years
Participants	Schools, service providers, public-private partnerships with IT- and IT-training companies.
Short description of the project	The large scale project Future Learning includes: eContent and mid-term IT-services for complete education, social Software and Web 2.0 at schools, new equipment, new initiatives (Sub note-books, mobile telephones for learning, PDAs, iPods), teacher training (e-learning teaching courses, online-academies, eBuddy/eTutor concepts, real time platforms, eGovernment content for teachers, participating in EPICT and others), equipment guidelines and equipment initiatives for all schools, educational offers for adult learners and employed persons, reduction of barriers for specific target groups, quality projects in schools and integrative IT use (Quality initiative and education standards), arts and creative projects (together with art institutes like “Ars Electronica Center Linz).
Methods applied to reach the objective (technological and/or pedagogical)	Networking and e-partnership programmes (twinning concepts for teachers and schools); the “eLearning Cluster” (eLC) and “eLearning im Schulalltag” (eLSA) networks consist of about 300 schools. Regional initiatives outside big cities. FutureLearning Competence Centers (FLCC) with learning platforms and eContent planned in 2008; example is the successful “edu-moodle” initiative, which 400 schools joined.
Implementation	<ul style="list-style-type: none"> • Some money for the schools coming together and taking part in the networks (about 3,000 € per year). • Four conferences and cluster meetings for different projects and target groups within a year. • Cooperation of education eLearning server institutions in provinces.
Specific results	<ul style="list-style-type: none"> • 300 eLearning schools (40% of secondary schools); • 450 schools using (edu)moodle and other platforms; • Education standards with eLearning components; • eContent material for 35 subjects, e-schoolbooks of school book publishers.
Impacts	eLearning initiatives are “subculture – mainstream” programmes of advanced schools, teachers and students; elearning in these schools means “everyday learning”. “Subculture” means, that there is not a big response from the political level and from public media.
Lessons learnt	After 150 different projects in the eFit – area, a consolidation of projects has been launched. All IT/e-learning initiatives are now close to new learning processes and pedagogical mainstream projects and school quality initiatives. Networking of schools and organisation development of lesson management is more important as eLearning offers; “eEducation” in Austria means that the schools are prepared for using eContent, platforms and new devices.

2.2 Basic competences in science and technology

Title of the initiative	Hello Spring (Tere Kevad)
Country	Estonia
Key competences	<ul style="list-style-type: none"> • Basic competences in science • Digital competence • Cultural awareness
Category	New Learning Environment
Contact details	Viktor Muuli (viktor.muuli@genomics.ee) http://tere.kevad.edu.ee http://tere.kevad.edu.ee/eng/index.html
Start and end-date	Spring 2001, 2002, 2003, 2004, 2005, 2006, 2007
Objectives of the initiative	For students to observe and study wildlife and nature throughout the springtime, sharing the results with students from other schools using a special web environment. To learn more about local nature and its history and being able to use the Internet for this purpose. A side objective of the project could be said to be the mainstreaming of ICT application in the teaching process.
The motivation	To make natural sciences for students more interesting and attractive.
Level of implementation	Mainly national
Target group	Mostly 7-14 years of age
Budget	15,500 Euros – year 2007
Participants	Schools (primary education) Location of participants: http://tere.kevad.edu.ee/2007/skriptid/osalejad.php
Short description of the project	The project 'Hello Spring' is a nature and science project which integrates the application of the Internet into day-to-day teaching. The pupils have to observe changes in nature and afterwards be able to find additional information on special designed websites on the Internet. This includes working with the ability to recognize sounds from frogs and birds on the Internet. The project also includes looking back to former times and thereby integrating ICT, biology and history in such a way that the pupils will get a more thorough understanding of their local nature and its history.
Methods applied to reach the objective	The pedagogical method of the project is observation of nature, describing species and subsequently searching the Internet for additional information. Moreover, the project has integrated ICT with biology and history. The technological method is a project web-based database.
Implementation	Pupils take field trips and identify the species of plants and animals that indicate the arrival of spring. Pupils compile the descriptions of the species and create web-pages with stories, pictures and sounds where possible. Pupils who observe the 'indicator species' in nature enter the date of their arrival or appearing (flowering) to the project web-based database. All results of observations will instantly appear on the web in form of maps or tables and can be followed by anyone interested.
Specific results	In 2007 the project database contained observation results from 4837 pupils and this can be used by all pupils, teachers and other interested people. The project has also resulted in web-pages created by participants with their project-work
Impacts	The main impact of the Hello Spring project is improved motivation of pupils to learn natural sciences. Though not being a direct impact there could be some association with Estonias improved PISA-tests in natural sciences. The project

	has also improved the teamwork skills of teachers and pupils.
Lessons learnt	In order to ensure the success of a project on integrating the application of ICT in everyday teaching it is vital to have a clear vision and a good team of leaders. Moreover, the activities have to be interesting and attractive enough for pupils to participate while remaining meaningful in a learning perspective.

Title of the initiative	Learning with Lego-Robots
Country	Hungary
Key competences	<ul style="list-style-type: none"> • Basic competence in technology • Digital competence
Category	New Learning Environment
Contact details including web links	Tamas Gilicze tamas@bjg.hu Maria Giliczene Laszlo Kokai marika@bjg.hu www.bjg.hu/lego . Batsanyi Janos Secondary Grammar and Technical School Csongrad
Start and end-date	Learning with Lego-Robots is a continuous project.
Objectives of the initiative	The objective of the initiative is to enhance technology learning amongst students by actually using it.
The motivation of the initiative	The motivation of the initiative is to experiment with learning approaches to technology by giving children the opportunity to create something physically themselves and making them understand how the computer can be used in this process.
Level of implementation	Local: the activities and work in the school Regional, national, international: the championships.
Target group	Direct target group: students, teachers, and older students as mentors. Indirect target group: parents, companies, potential sponsors etc.
Budget	Not available but each class needs: bigger tables (suitable for 3-4 children) for the building, constructing activity, one computer for each group of children, and Lego Mindstorms (RCX or NXT) kits.
Participants	Schools, organisations, groups, after school clubs which deal with children, youngsters.
Short description of the project	The LEGO Robots project is about the history and basics of robotics, building practice, drives, stability and cognition of GUI interface. After some time the children will be able to programme the robot and making different kinds of robots in line with theoretical tasks. The project can follow children and youngsters to the end of high school and thereby gradually improving their knowledge and skills of programming – even for scientific observations. At the very beginning the teachers have “traditional” teaching roles, but later on they become collaborators and organisers in the teams.
Methods applied to reach the objective (technological and/or pedagogical)	Methods applied are new learning paradigms including project methods, challenges, active participation of students, self-supporting research, peer-to-peer activities, collaborative learning, learn through hands-on and exploratory play.
Implementation)	Actions to ensure implementation are done on all levels by facilitating networks and championships. Children learn about Logo programming language, different data gathering is used, measuring devices. During and at the end of the project the students have the possibility to share their ideas with other teams and learn from each other. To ensure sustainable development the following measures have been taken: parents’ feedback, competitions, personal meetings, keeping in touch through the internet.
Specific results	Some specific results are: children of all social backgrounds can participate, using the diverse experiences of the children and increasing peer-to-peer learning. Most of the children are interested in trying out robot building and

	programming. After it they can choose whether they want to gain deeper knowledge in this area and participate in longer projects or not.
Impacts	During the activity students create “tangible works”, in this way they can experience the delight of creating and can feel real success. This initiative is an effective tool for forming cooperation between children and giving them useful experiences in project work and team work. The project has helped the development of key competences such as: comprehension competence, reflection competence.
Lessons learnt	Robotics is an effective way for teachers to cover important areas of their Science, Technology, Engineering, Math curricula and it has been possible to integrate several scientific disciplines ranging from: technical knowledge of speed and gears to ICT skills of programming and algorithm structures to creative problem solving. Moreover, some new learning paradigms have come to the forefront: self-supporting research, searching for experts, professionals, brainstorming. When children actively construct things in the physical world, it helps them to build knowledge in their minds.

2.3 Communication in mother tongue

Title of the initiative	Netlibris
Country	Finland
Key competences	<ul style="list-style-type: none"> • Communication in mother tongue • Digital competence
Category	E-skills
Contact details including web links	www.netlibris.net
Start and end-date	1996-2007
Objectives of the initiative	<p>To promote:</p> <ul style="list-style-type: none"> • ICT skills for boys and girls • enrich reading experiences • collaborative learning methods and individual curriculum implementation • building communities of readers <p>Initially the objective were to:</p> <ul style="list-style-type: none"> • encourage and challenge good readers • make pupils read more and different books • make pupils share their reading experience with other book lovers • increase reading among other pupils by using the pupils' resources in the classroom and at the school
The motivation of the initiative	The original project is designed for students who were like Dahl's Matilda: boys and girls who loved reading and did not have many academic challenges at school. Now the programme caters for all kinds of readers: those with special educational needs and challenges, pupils with Finnish as a second language and whole classes as readers etc. The motivation is also to make pupils more responsible and empowered owners of their own studies of literature by making it possible for them to choose the literature, setting goals, designing activities and evaluating the process.
Level of implementation	Local, regional, national and international
Target group	Pupils of all levels and teachers
Budget	Currently, 8 000 Euros a year
Participants	Schools, pupils, teachers librarians and teacher educators
Short description of the project	Netlibris is a pedagogic method of teaching literature. Netlibris schools collaborate in offering an enriched literature programme to selected groups of students. The process consist of asynchronous literature discussions, virtual and face-to-face reader group meetings, teachers working in virtual teams as tutors, collaboration between teachers, librarians, teacher educators and schools. Netlibris has provided professional development courses for teachers locally and nationally. There are more than 200 teachers involved in the development of the programme.
Methods applied to reach the objective (technological and/or pedagogical)	The core of the Netlibris method is the asynchronous literature discussion among the members of the group and the use of ICT is an active part of this process. Every group has members from 2-4 schools and the discussion is centred on the pupils. Netlibris is also a vivid network of teachers, librarians and teacher educators. The pedagogic discussion forum is very active in developing the method.
Implementation	The Netlibris web site contains database of books, information about the

	reading programme and a collaboratively published on-line magazine. In-service training and peer support is provided in collaborative networks of Netlibris schools. The new "Reader Diploma Programme" provides individual readers with the challenge and opportunity to receive an award for high quality achievement as readers.
Specific results (number of users, new learning methods, improved digital skills)	There are more than two hundred teachers and over 2 000 students/year using Netlibris, including also groups for struggling readers. Annually more than 70,000 messages are posted at Netlibris discussion forums. The diffusion to new kinds of users has for instance included a group of Swedish-speaking Finns who now have their own Netlibris programme involving most of the Swedish speaking minority schools.
Impacts	Netlibris has become a "brand name" for a pedagogic method of teaching literature and has had an impact on the national and local curricula of teaching literature. In seven years the concept has spread not only geographically but also from the primary school level to the secondary and upper secondary schools and from gifted pupils to all levels of readers. Netlibris developers have been developing similar projects together with the British Council and taught courses for teachers in several countries: Hungary, Czech Republic, Ukraine, Estonia. The British Council has started their international Literature Circle programme in more than 10 countries in 2007.
Lessons learnt	The concept of Netlibris is a low-cost easily transportable method used across various user groups, subjects and cultures. The technology required is available in many countries. The most important ingredients are the network of dedicated teachers and the opportunity for collaboration and in-service training.

2.4 Digital competence

Title of the initiative	Rescue La Vallette, an Adventure in Time
Country	Malta
Key competence	<ul style="list-style-type: none"> Digital competence
Category	New Learning Environment
Contact details including web links	manuel.zammit@schoolnet.gov.mt http://skola.gov.mt/ictsec/gamesite/scsp.html
Start and end-date	Started at the beginning of 2007
Objectives of the initiative	For students to work collaboratively in a fun and motivating environment and to acquire ICT skills in the process.
The motivation of the initiative	To show that there are other ways of teaching a skills based subject. Using a scenario and an interesting story line, students can learn ICT skills in a context that they understand and are familiar with.
Level of implementation	The game has a historic orientation and is set in a Maltese context so originally it was intended to be implemented at just the national level. However, since the EU eLearning Award teachers from other countries are also trying it out.
Target group	Students aged 10 to 13. Last year in Primary to first years in Secondary schools.
Budget	Not available.
Participants	Primary and secondary schools.
Short description of the project	Welcome to the La Vallette Adventure is a project using storytelling, games and quests to make pupils use the available technology of Word, Excel, PowerPoint, the Internet and email to carry out tasks.
Methods applied to reach the objective (technological and/or pedagogical)	The basic methodology is group work. The four members of each team have a particular role to perform although as a team they also have to decide on best options. The game follows a similar method employed in WebQuests although the tasks are not set at the start of the quest but unveiled as the learner progresses through the game.
Implementation	At the moment the game is not part of any formal system. Anyone who would like to try out a different method of teaching ECDL skills is welcome to try the game.
Specific results	A thorough evaluation is still to be implemented.
Impacts	The main impact is a new and better way of teaching ICT skills.
Lessons learnt	The pedagogy is what drives the technology and not the other way round. A shift in methodology is required where the teacher becomes a supporting actor rather than the main guru on the stage. The teacher still has a very important role to play as the learning outcomes can be influenced by the enthusiasm shown by the teacher. Documentation suggests a number of supplementary activities for the learners. Much more than the suggested activities can be done with a little creativity from all the participants.

2.5 Combination of key competences

Title of the initiative	eBac eLearning-platform
Country	Luxemburg
Key competences	<ul style="list-style-type: none"> • Digital competence • Learning to learn • Communication in the mother tongue • Communication in foreign languages • Mathematical competence and basic competences in science and technology
Category	Digital Literacy
Contact details including web links	epilotage@ebac.lu http://www.ebac.lu
Start and end-date	July 2005 – no end
Objectives of the initiative	To create an eLearning platform that gives adults who dropped out from the traditional school system before the baccalaureate the possibility to study for a baccalaureate in a blended learning-structure with 25% presence-learning and 75% distance-learning.
The motivation of the initiative	The drop-out rate of traditional evening classes is very high (ca. 90%) as it is very difficult for adults to combine studies, family and job. As presence learning has its limits at this level, the Ministry of Education in collaboration with mySchool! decided to create the modular and blended-learning system of the eBac.
Level of implementation	At this moment ca. 80 eLearners are preparing their baccalaureate and are therefore enrolled in eBac.
Target group	Basically the target group is adults who have left the traditional school system without a diploma. Due to the increasing interest of schools in Luxembourg for the eBac structure, the eLearning-platform will soon be available for students from the age of 16.
Budget	As eBac depends on various departments, it's very difficult to give an exact amount for the budget.
Participants	mySchool!, the pedagogical platform of the Ministry of Education in Luxembourg and eTeachers coming from different traditional schools.
Short description of the project	eBac is a blended distance eLearning platform which allows the eLearners to prepare the baccalaureate online without being forced to attend classes at a specific moment at a specific place. Traditional presence-classes are proposed to the eLearners but in order to give a maximum of flexibility to the eLearner the classes are optional. The baccalaureate itself takes place in a traditional school together with the students who attended presence-classes. The eLearners get exactly the same diploma as the traditional learners.
Methods applied to reach the objective (technological and/or pedagogical)	Technically all the material of eLearning subjects is online and takes the shape of a website that can be accessed by the eLearners at any time and any place. The websites are powered by the pedagogical platform mySchool!. The pedagogical needs are exactly the same ones as in a traditional school.
Implementation	Implementation is done at the traditional schools as an extra service and this is supplemented with a steering committee.
Specific results	The most interesting thing is that some traditional schools have contacted the steering-committee of eBac to adopt the modular and far more flexible learning scheme in their own schools. Targeting the good students rather than the weak implies an opportunity to go on faster and in a more autonomous and constructive way.
Impacts	Although eBac has just started it is possible to see how the new modular system

	brought traditional schools to rethink some part of their own pedagogical steps and to plan a possible integration of a modular system in their own school. Hence, the lessons from eBac might have an impact on the structure of adult learning elsewhere.
Lessons learnt	In a blended adult-learning, self-evaluation must be proposed but also has to stay optional. There is no reason for strict ruling since temporary students will drop out quickly and all the others who see the worth of their learning don't need to be watched to do a serious job. The presence lessons are very important because eLearning without human contact leads to drop out. Skype and VoIP are the navel of an efficient guidance of the eLearner by the eTeacher.

Title of the initiative	Knowledge Promotion
Country	Norway
Key competences	<ul style="list-style-type: none"> • Communication in the mother tongue • Mathematical competence • Digital competence
Category	National Strategy/Reform
Contact details including web links	Norwegian Ministry of Education and Research. http://www.regjeringen.no/en/
Start and end-date	2006 -
Objectives of the initiative	<p>The Knowledge Promotion is the latest reform in the 10-year compulsory school and in upper secondary education and training. The objective of the reform is to help all pupils to develop fundamental skills that will enable them to participate actively in knowledge society. The reform took effect in autumn 2006 for pupils in grades 1-9 in 10-year compulsory school and for pupils in their first year of upper secondary education and training (i.e. the 11th grade). Five basic skills are defined:</p> <ul style="list-style-type: none"> • the ability to express oneself orally • the ability to read • the ability to express oneself in writing • the ability to do arithmetic • the ability to make use of Information and Communication Technology (ICT) <p>These basic skills have been incorporated into all subject curricula.</p>
The motivation of the initiative	Low performance in diverse international surveys. Need to strengthen the general level of education.
Level of implementation	Digital skills have been implemented in all subject curricula from grades 1 -13.
Target group	Pupils in primary and secondary education.
Budget	Several support measures have been put in place to contribute to the implementation of the reform.
Participants	The Knowledge Promotion Reform involves the entire school sector, including teacher training institutions.
Short description of the project	Strong emphasis on basic skills, among these is the ability to use ICT.
Methods applied to reach the objective (technological and/or pedagogical)	Emphasis has been put on the development of digital content as a lever to improve the implementation of the pedagogical use of ICT.
Implementation	The Knowledge Promotion Reform was accompanied by new subject curricula

	in all subjects.
Specific results	Not available.
Impacts	It is premature to measure the impacts of the reform.
Lessons learnt	More emphasis on teacher training is necessary to implement new reforms. Teacher training schemes will be put into place. In the follow-up actions of the Programme for Digital Competence (2004 – 2008) ICT in teacher training will be prioritized.