The Learning Citizen

– Editorial –

« 21st century blackboard WAN[1] »

Technology is often perceived as a miracle cure for all educational ills, but the reality is that its use is mainly restricted to the "gift wrapping" of existing practices. Youngsters are judged to be hyperactive and unable to concentrate on a single task by parents and teachers alike, who worry that they are not learning anything. Traditional exams are still considered by most people to be the ultimate means of assessing learning.

In this Newsletter, Wim Veen, Gerhard Fischer and Serge Ravet challenge these views and present some insights into the real challenges facing individuals, educators and educational institutions in the information age.

We also highlight some exciting initiatives with a global, European or regional focus using ICT for lifelong learning: GUS, led by Takeshi Utsumi, which aims to create community knowledge centres in the remotest parts of the globe like the Amazon region, using broadband technologies; "The Learning Citizen", supported by the European Union, acting as a catalyst in

Europe to enable access to learning for all European citizens throughout their lives; LUNO, initiated by Marc Gabriel, which
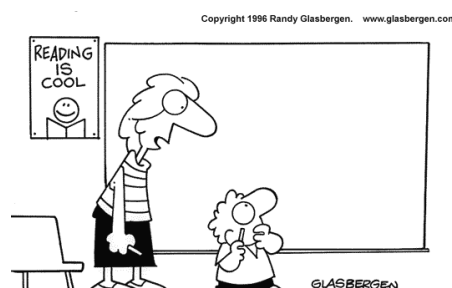
"There aren't any icons to click. It's a chalk board."

has successfully streamlined training efforts in the Lorraine region and beyond, by creating a regional bank of digital resources which allows students to acquire further qualifications at a minimal cost. Finally, Anne-Marie Husson reports on a French initiative on quality assurance for eLearning and a future "Code of Best Practice" that is currently being developed.

Enjoy the reading!

Claudine Debray

Ute Bahn

In this issue:

– Foreword by Ute Bahn –

The Future of Learning in Europe

Whether you are an individual or a company: your future depends on what you have learnt and what you will continue to learn.

European funded projects are now building technological bridges between learning today and in the future.

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The right to education for all was established by the United Nations on 10 December 1948 in Article 26 of the Universal Declaration of Human Rights.

Today the signatory States to that declaration are better placed than ever to fulfil this promise made more than 50 years ago.

The conclusions of the Lisbon Special Council "Towards a Europe of Innovation and Knowledge", held in March 2000, stated that the successful transition to a knowledge-based economy and society had to be accompanied by an orientation towards lifelong learning.

Overall control and funding for fulfilment of this requirement are in the hands of the European Union. One initiative central to this is "The Learning Citizen", which reflects the interests of the citizen who wants to learn throughout his life.

Starting at a basic educational level and tailored to the current requirements of society, the general aim of the eleven Learning Citizen projects is to raise the overall level of education and knowledge by means of information technology, and, if there is a demand, create solutions to overcome any obstacles. Lifelong learning in this sense means that learning should be available for all citizens wherever they may.

This applies also to the many groups in society which, for various reasons, are in danger of falling through the social net or are disadvantaged in terms of education: young school dropouts, senior citizens, housewives with children, the jobless and prisoners.

The following examples demonstrate the breadth of the "Learning Citizen" activities:

One typical project that targets people of all ages and of all levels of education, irrespective of where they live, is METACAMPUS, which presents itself as an online lifelong learning marketplace, providing the learning citizen with a platform that mediates between suppliers and users of educational content.

The MOBILEARN project explores mobile learning environments. A worker may use Mobilearn technology to improve his job skills, or a person may use it when visiting a city and its museums or to obtain medical information for everyday needs.

MOBILEARN also researches technologies and methodologies, such as "blended learning" which

Lifelong learning survey

According to a recent survey on lifelong learning carried out under the EU initiative CEDEFOP, less than three-fifths of those questioned claimed to be able to us a computer or to possess management skills. Less than half had the necessary skills to use the Internet, scientific or technological tools, or to speak a foreign language. Citizens of Europe know that they need most of these skills for work but also consider them useful in their private lives.

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www.learningcitizen.net

www.metacampus-project.com

www.mobilearn.org

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combines mobile with traditional methods, and develops accounting and billing systems for the future world of mobile learning.

The HERO project addresses groups of motivated first offenders, who are undergoing rehabilitation rather than being confined in seclusion. They are provided with health promotion and learning services. Training again consists of "blended learning", a combination of multi-media, online and traditional teaching.

HOPE also introduces an eLearning brokerage platform for socially excluded individuals such as young offenders. The online learning system, which was released in September 2003, was tested and validated in prisons in three pilot schemes in Greece and Spain. These evaluated not only the functionality of the system, but also its impact on the users, their behaviour and attitudes.

The FELLOWS project partners in Austria, France, the UK and Germany share the same basic software, which is designed to work equally well for different types of content. For example, the system is used in Austria to teach technical terms for retraining, while in France it is used to help migrants to cope with the French language.

"Internationaler Bund", one of the largest independent organisations in Germany committed to youth and social work, education and vocational training, uses the FELLOWS system to train and re-train teenagers.

"There is an important social aspect to our work, and that's the improvement in quality of life," says Jens Christensen, EU project officer responsible for LCCN. "If you let market forces prevail there is no doubt that the gap between the educated and the uneducated will widen. The role of the EU is to help to build a bridge to resolve these two conflicting issues."

The development towards the Information Society is interpreted in a similar way by politicians all over Europe, and acted upon with slightly differing focuses.

"Education is the best economic policy we have", said the British Prime Minister Tony Blair after coming to power in 1997. This of course applies equally to education and labour markets throughout Europe.

The modern approach to addressing these issues is gaining acceptance. Its advantages are obvious: apart from availability everywhere, for everybody at any time, learning with information technology is available with widely ranging content and is cost effective.

www.heroproject.org

www.hope-project.org

www.eu-projects.com/fellows

www.edcomnet.net

www.m-learning.org

The Learning Citizen

And it is ideal for practising so-called blended learning, which uses different "channels of learning" to deepen a learner's knowledge of a certain subject

In the European Commission memorandum on Lifelong Learning (http://europa.eu.int/scadplus/leg /en/cha/c11047. htm), it is indicated that most people go to a set place to learn, whether school, university or education centre. It points out that the people of Europe should be able to access all learning opportunities within their own geographical region.

This holds for many, but it is not yet true for all. This may be for reasons of family, or place of work, or because they have a physical handicap or financial constraints.

Initiatives such as "The Learning Citizen" prove that Technology Enhanced Learning creates a new freedom, breaking down previously insurmountable barriers.

This development in the area of education will naturally affect conventional institutions. Schools may need to change the way they function and become regional knowledge-centres.

Universities will open their digital doors and thus become "open universities".

Training centres might not only provide job training, but also learning for personal pleasure.

What makes all this so easily available and accessible is that it is based on distance learning using information technology often available at home!

In conclusion, anyone who wants to learn, whether for his job or for his own satisfaction, will increasingly be able to take responsibility for his own lifelong education. The ultimate aims are lifelong learning services that support the "knowledge citizen" as an empowered participant in a competitive yet humane knowledge-based society: easily accessible learning opportunities for everyone, everywhere, at any time.

Ute Bahn

Ute Bahn

Ute Bahn is a technical, multimedia and nature journalist. Since the eighties she has been writing about computing, education and entertainment. Her main objective is to make complex ideas clear and understandable for everyone. She is a founding partner of a multimedia and PR agency. She works on the LCCN initiative which supports EU-funded Learning Citizen projects.

ute.bahn@learningcitizen.net

www.alamosistemas.com/nemo

www.pedcare.nu

www.tessera.gr/dunes

www.educanext.org/ubp

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– **A question of Pedagogy** –

A new force for change: Homo Zappiens

Educational reforms have focused on redesigning content, curricula, and in-service training of teachers for a long time. Today, a new force for change is appearing in schools stimulating a revision of current classroom practice. This force for change is Homo Zappiens, the net generation, that is preparing for a future creative society. Education should respond to this new force for change.

Who is Homo Zappiens?

Homo Zappiens is the generation that has grown up using three devices from early childhood on: the TV remote control, the PC mouse and the cell phone. These three devices have enabled today's children to control information flows, to deal with information overload, and to select information properly, swiftly and according to their needs.

The net generation uses technology 24/7. MSN is always on, talking to mom or friends is just one click away, and by playing Internet games they integrate virtual friends with physical neighbours. The difference between physically being there or not is blurred. By using the Internet children have learnt how to search and find information they need and by playing Civilization III or whatever game, they learn by discovery. Homo Zappiens also differs from former generations in the way they play games. Instead of playing games according to fixed rules, he likes to invent his own games and set his own rules.

The net generation considers school as a meeting place for friends rather than a learning environment. School does not challenge them sufficiently for learning and take the risk of getting disconnected from their audience. 'Chalk and talk' classrooms are not their thing. Schools complain that Homo Zappiens is unable to listen to teachers and is hyper active, undisciplined and unable to concentrate on one task at a time. Parents are concerned that their kids are only playing games, surfing the net, watching TV and hardly go out for sports or never read a book. This is all understandable, but instead of looking at children from the point of view of what they should do according to school and parents, let's look into what they actually do. By using the web, playing PC games and zapping TV channels, they develop critical learning skills that are exremely useful in an information society.

Who is Homo Zappiens?

The generation using three tiny devices from early childhood onwards.

Homo Zappiens is an active processor of information, a skilled problem solver, using gaming strategies, and an effective communicator.

For Homo Zappiens, learning starts with play, exploratory play.

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Let's take a look at four major Zappiens' skills.

The first skill relates to **scanning skills** where Homo Zappiens deals with screens. Today's children do not start reading characters when they are in front of a screen. Instead they scan the screen including icons, images, colours, symbols, movements and sounds. This approach makes them decide much faster where to go next and which button to press. This is the reason that parents always lose when competing to find information on the web. Different media require different skills and kids have become efficient information seekers using new technologies.

The second skill relates to **multi tasking**. Whereas parents have learnt to do one task at a time, screenagers are able to perform different tasks at a time. They communicate using MSN while word-processing; they answer the phone while doing their maths homework and in addition they listen to their favourite music. In fact, they are used to dealing with simultaneous information input and information channels. In our society which is said to be becoming more complex, individuals will have to deal with many different tasks at a time. Homo Zappiens is finding his way in advance.

The third skill is about **processing discontinued information**. Contrary to what adults believe, kids are not zapping TV channels randomly. On the contrary, they zap consciously having learnt to understand the principles of visual communication. They are skilled in processing various interrupted information flows and extracting meaningful knowledge out of them. This skill helps kids to deal with huge amounts of information effectively.

Many generations have been trained to read and study linearly. Homo Zappiens differs here again. He has learnt to look for solutions of problems at the appropriate time. When playing a PC game, kids do not start by reading the manual. They start by playing the game and only use the manual whenever needed. Homo Zappiens is learning **non-linearly**. Web content by itself is organized in a non-linear way and it is the experience with this non-linear information that they have assimilated.

Do the skills and approaches of Homo Zappiens relate to learning? I think they do. We learn by reflecting upon our experiences by creating 'mental maps' and 'mental models'. Learning is the process of adapting our mental maps and models by including new experiences. From a constructivist point of view, learning is searching for meaning. Individuals who learn try to transform new

Prof. Wim Veen

Prof Wim Veen is the head of the Centre for Educational Innovation and Technology at the Delft University of Technology. He takes a particular interest in the changing pedagogy that comes with the uses of ICT in education, both in the private and public sector.

Corporate eLearning is his current focus and together with a small innovative team of researchers, he tries to contribute to eLearning developments in corporations where new learning cultures are emerging and new generations having new skills for learning are shaping the concept of lifelong learning.

w.veen@tbm.tudelft.nl
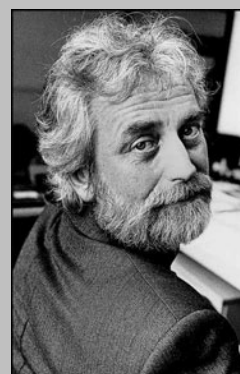
Prof Wim Veen

The Centre for Educational Innovation and Technology at Delft University of Technology provides courses for students in the field of e-learning and researches the development of new concepts and models for ICT enabled learning. In addition, the centre focuses on the implementation and integration of ICT in university teaching and leads an institution-wide initiative in this field.

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information into meaningful knowledge. As a matter of fact, they construct knowledge. Learning is an active mental process of the learner, which means that learning hardly occurs when students are listening to somebody talking. Research has shown that the retention rate of lectures is only around 5%! The more active learning methods are, the more students learn. Only the learner himself can transform information into meaningful knowledge.

However, schools do not take advantage of these competencies, still applying teacher-centred approaches. Schools should therefore adopt new learning and teaching approaches, which mean a thorough redesign of our education system.

Independent learning cannot happen within the traditional sequence of timeslots of classes. Seven lessons a day of listening is a torture for Homo Zappiens and, as we already know from educational research, a very ineffective way of learning. Abolishing all classroom teaching is one of the issues for more flexible scheduling in schools. Homo Zappiens should be able to learn together with peers or alone in a mixed setting of blended learning situations. As the learner himself owns the learning process, he should also take responsibility for it. Students should be taken seriously as we want them to become adults by the age of 18. On the one hand, educational institutions should define the competencies to be achieved and on the other hand, the students should have to prove their competencies to the school.

Can the current education system respond to the needs of the new generation's learning approaches? Can schools respond to the challenges of a rapidly evolving information society? The basic design of our schools has been rooted in Taylorism. Although the industrial era has gone and the services-oriented economies have undergone profound changes due to the uses of information technology, schools have continued to survive the way they have been designed 150 years ago.

The old educational paradigms need to be updated according to our already longstanding knowledge about learning. This sounds revolutionary, but in fact it is not. We did design the adequate education system for the industrial era, why should we be reluctant to redesign it for the upcoming creative society? Western countries have invested huge amounts of money and effort in restructuring their old industrial economies into modern service-oriented societies. Isn't it strange we did not the same with our education system?

Prof. Wim Veen

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Homo Zappiens' writing

My smmr hols wr CWOT. B4, we used 2go2 NY 2C my bro, his GF & thr 3 : kids FTF. ILNY, it's a gr8 plc. *

My summer holidays were a complete waste of time. Before, we used to go to New York to see my brother, his girlfriend and their three screaming kids face to face. I love New York. It's a great place.

* Daily Telegraph, Sun Mar 2, 2003, British Girl Baffles Teacher with SMS Essay
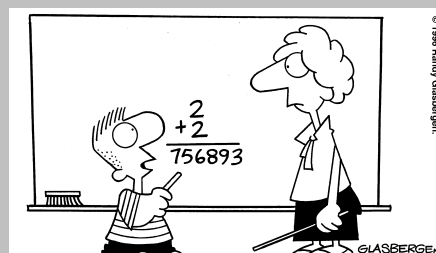
"In an increasingly complex world, sometimes old questions require new answers."

For a society that is heading for a new era in which creativity is critical for surviving in a growing global competition, our schools and the entire education system urgently need to be redesigned.

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– Technology Watch –

A French Revolution

In France, the regions are legally responsible for the continuing education of both employees and jobseekers. Since 1983 all the regions have provided significant funding for training organisations to set up and run courses leading to both vocational qualifications and university diplomas. In addition to this, in 2000, the Regional Council of Lorraine in the North-East of France voted for a specific Information and Communication Technology policy, enabling a wide-reaching regional operation for the creation of ODL (Open Distance Learning) resources. In Lorraine, these two factors led the region to launch a major project aimed at developing a bank of resources for distance Higher Education.

This programme, launched in September 2000 with a regional grant for the creation of 250 training modules, is unique in France. It has brought together all the universities in Lorraine, along with other higher education establishments, all working towards a common goal: developing a regional bank of resources for Higher Distance Education. To date, this is the only region in France to have federated all its universities around a common project, which, in the French academic world, is no mean feat!

The philosophy of LUNO is reflected in the four main principles:

-- **The principle of pooling**: each module created by a partner can be used by another and vice versa. The prevailing idea here is to 'pool' all the modules produced and avoid any duplication (two partners producing modules on the same theme). Each partner thus produces resources in their own field of expertise.

-- **Lowest possible cost for the student**: trainees from Lorraine pay an enrolment fee to the university, either 40 € per module or 145 € for a diploma consisting of five or six modules. For students from outside the region, the fees are 300 € per module or 2000 € for a diploma.

-- **Validation of professional skills and experience**: the LUNO approach is perfectly in line with French law on the Validation of professional skills and experience (similar to National Vocational Qualifications in the UK). A student can complement his experience with theoretical background by following a LUNO module. In the same manner, a candidate can be excused from certain courses

LUNO

LUNO (Open UNiversity of Lorraine), supports the creation and the implementation of ODL resources and was set up in partnership with other higher education establishments in Lorraine: University Henri Poincaré Nancy I, University Nancy II, INPL (National Polytechnic Institute of Lorraine), University of Metz, ENIM (National School of Engineers in Metz) and ESIDEC (International Business School in Metz).

www.luno-edu.net

www.luno-edu.net

PHEDRE platform

PHEDRE (Plate-forme d'Hébergement pour l'Enseignement à Distance dans la Région Est) is an Open Distance Learning platform developed to support the LUNO project. It was developed by Medi@tice, the instructional design unit of University Henri Poincaré Nancy I to fulfil LUNO's objectives.

www.phedre.net

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if his/her experience is considered sufficient in a particular field.

-- **Individualised learning paths**: each module enables the student to obtain a 'skills certificate' recognised on the employment market. This way the student can acquire a number of skills certificates or obtain a Higher Education qualification. The system is a set of 'learning bricks' which fit together to form an individualised learning path corresponding as closely as possible to the students' needs. The LUNO diplomas are recognised in Higher Education and benefit from the European Credit Transfer System (ECTS)[2].

LUNO currently offers more than 250 modules, each equivalent to 30 to 60 hours of face-to-face training. The modules cover a wide range of fields, from mathematics to industrial engineering and local development. A selection of these modules enables the student to obtain one of the 13 existing university diplomas. More diplomas will be added to this list over the coming months as the modular programme develops.

All the modules exist in French and a certain number have been translated into Romanian, Czech, Spanish and Italian.

LUNO is recognised on a national level through the virtual campuses which are backed by the French Ministry of Education. LUNO will soon enlarge to encompass the Grand Est, which includes the regions of Burgundy, Champagne-Ardennes and Franche-Comté. It is envisaged that LUNO will soon be working with these three other regions and their universities.

On a European level, possibilities for cooperation exist within the framework of the European programme Interreg III C, which links the Lorraine Region to regions in Sweden, Finland, Poland and Italy. This programme should enable the translation of resources into these other languages.

Marc Gabriel

– **Quality of eLearning** –

The French flair for quality

To give eLearning credibility as an effective way of learning, creating customer confidence by ensuring quality is key. However, this is a challenging task due both to the nature of eLearning and the various aspects of its provision.

Marc Gabriel

Marc Gabriel is the Vice President of the Board of the Université Henri Poincaré (UHP) in Nancy, France. He is also in charge of the implementation of eLearning at UHP through the médi@tice team. Médi@tice has developed a distance learning platform called PHEDRE and online courses in various fields.

Marc Gabriel is responsible for the programme, Industrial Maintenance and Production, which is offered online (*www.cyber.uhp-nancy.fr*) and initiated the Quality and Supply Chain Management programme, both at UHT.

He also teaches at ESSTIN (Ecole Supérieure des Sciences et Technologies de l'Ingénieur de Nancy) and manages a team of researchers in maintenance engineering.

He acts as a consultant for various European corporations and is the author of online training modules as well as hundred papers and the co-author of five books.

gabriel@uhp-nancy.fr

Marc Gabriel

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By its very nature, **eLearning is a service** which addresses **a particular focus of those who use it to learn.** *"Just in time, just what I need, from wherever I am"* requires an "industrialisation of individualisation" . The very fact of "putting learners at the centre" implies not only new expectations from them, but also gives them additional commitments and empowerment such as taking responsibility for their learning process and working collaboratively.

On the other hand, **eLearning is a market** characterised by a high level of segmentation, involving a multiplicity of actors and functioning in a rapidly evolving context under constant pressure from both industrialists and technological innovation.

In this context, the question of finding the right approach to ensure the **quality of eLearning** is crucial and many questions arise:

-- How can we consider, in the same approach, the human factors that belong to each educational or learning experience and the industrial factors that are part of the use of technology?

-- How can we combine the multi-cultural, industrial and global approach that characterises the knowledge industry with the intimate dimension of personal development and learning?

-- How can we ultimately give confidence to the customers and end-users as to the validity and quality of the service they are buying?

It was with these questions in mind, that **Le Préau**, the Paris Chamber of Commerce and Industry's Resource Centre on ICT in Education, took on, with a pool of 10 eLearning professionals and quality experts, the issue of quality in eLearning.

The working group made three major decisions:

-- **to focus on a quality-assurance approach**, considering eLearning as a service with various components: technical, educational, organisational and institutional;

-- **to approach quality in eLearning from the perspective of customers and the identification of their needs** with a special focus on the learner: *what is specific to eLearning in terms of technology, pedagogy and services such as individualisation, flexibility, accessibility and confidentiality;*

Le Préau

Le Préau is the Resource Centre on eLearning of the Paris Chamber of Commerce and Industry

http://www.preau.ccip.fr

Anne-Marie Husson

Anne-Marie Husson

Anne-Marie Husson is the Quality Project Manager of Le Préau. She was in charge of the study done by Le Préau on the topic of "Quality in e-learning" from 2000 to 2002. She is now a member of the Editing Committee of the Code of Best Practise launched by the FFFOD. She is also in charge, in partnership with the University of Nanterre (Paris X) of an eLearning Bachelor's degree, meant to train eLearning managers in the new skills they need.

amhusson@ccip.fr

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-- **to describe the processes to be implemented to satisfy customer needs:** *are these processes different or similar to those already described for distance learning and individualisation strategies for learning ? Where and how does the use of ICT and the Internet modify the scope? Which indicators can we use to verify the proper implementation of the services?*

The main results that came out of Le Préau's study, give contributions in three main areas:

-- **the modelling of the eLearning process**: this model has proven to be very helpful for both designers and providers of eLearning to define their contractual relations and for customers to find relevant indicators to guide their purchase of a service.
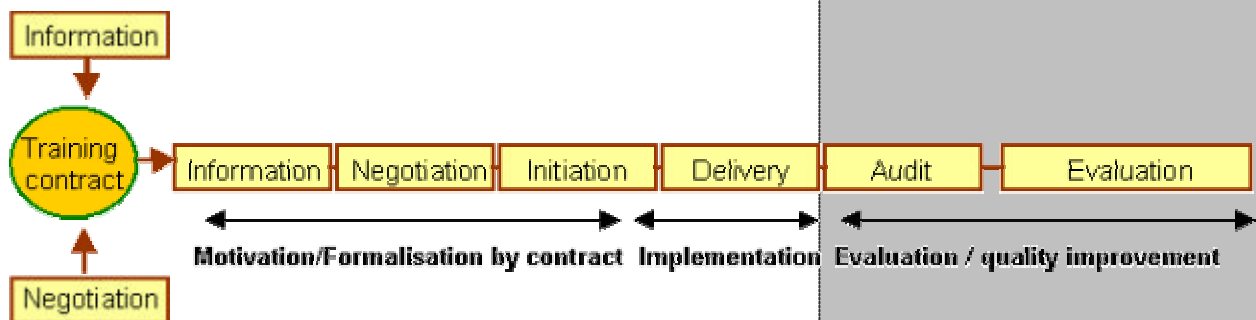
-- **a matrix analysis of the accuracy of 14 different quality tools**, representative of the different fields of eLearning: traditional quality tools like ISO 9000, technological eLearning standards like AICC, IMS and SCORM and evaluation criteria specific to eLearning like Quality-Mark, Quality Standards, Quality on line or ODL/QC.

-- **a set of recommendations (see box)** to give eLearning real credibility as an effective way of learning, able to reach its claims of individualisation, flexibility and accessibility.

These results and the way the community of professionals in eLearning received and applied them convinced us that **eLearning requires a specific quality-assurance** tool that should be able to:

-- take into account the diverse components of eLearning;

-- guarantee all stakeholders seamless quality throughout the design and the delivery of the eLearning service;

-- use existing quality tools, whenever appropriate.

Aware of this need and willing to take a step ahead in that direction, the French community of eLearning professionals - under the umbrella of the FFFOD (French Forum of ODL - http://www.fffod.org) in cooperation with

Examples of recommendations

-- Pay particular attention to the phases prior to and following eLearning delivery. They are key to building a solid motivation and the empowerment of the learner in his/her own learning process.

-- Evaluate, not only the "delivered quality" but also the "received" and "perceived" quality to ensure both efficiency and customer satisfaction: have learning objectives been reached, have given competencies been acquired, are all the stakeholders satisfied?

-- Carefully dissociate the "Information/Negotiation" phase related to the "institutional" customers from the one related to the learners. They both lead to contracts, but their respective nature is quite different.

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AFNOR (the French Association of Normalisation) - made the decision to develop a **Code of Best Practice specific to eLearning**.

This Code of Best Practise aims to deepen reflection on the topic, to describe the state of the art amongst the eLearning community, to clarify the relationships between providers and customers on shared quality criteria. This will be done by collecting already existing results (at the French and international levels) and by investigating a large variety of experiments currently conducted in France. Due in the first semester of 2004, this Code will be open to external sources and further contributions throughout its production process. We hope it will contribute positively to the international initiatives carried out at the European (CEN/ISSS) and International levels (ISO /SC36 - WG5).

Anne-Marie Husson

– Perspectives of eLearning –

Making learning part of life

Beyond the "Gift Wrapping" approach of Technology

The previous notion of a divided lifetime — education followed by work — is no longer tenable. Learning can no longer be dichotomized into a place and time to acquire knowledge (school) and a place and time to apply knowledge (the workplace). Professional activity has become so knowledge-intensive and fluid in content that learning has become an integral and inseparable part of our lives.

Most current uses of technology to support lifelong learning are restricted to *"gift wrapping"*: they are used as an add-on to existing practices rather than a catalyst for fundamentally rethinking what education and learning should and could be. Traditional frameworks, such as instructionism, fixed curriculum, memorization, decontextualized learning, etc., are *not* changed by technology itself. This is true whether we use computer-based training, intelligent tutoring systems, multimedia presentations, or distance learning. Research in L3D is focused on the design, development, and assessment of socio-technical environments to support *new* frameworks for lifelong learning such as: integration of working and learning, learning on demand, authentic problems, self-

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Le Préau's study

"Which quality model for e-learning?" published in February 2002 is available in French and in an abstract format in English on Le Preau's website at

http://www.preau.ccip.fr/ qualite/publication.htm


L3D's vision of Lifelong learning

Lifelong learning is a continuous engagement in acquiring and applying knowledge and skills in the context of authentic, self-directed problems. The research in lifelong learning at Center for LifeLong Learning and Design (L3D) at the University of Colorado, Boulder is grounded in descriptive and prescriptive goals such as:

(1) learning should take place in the context of authentic and complex problems;

(2) learning should be embedded in the pursuit of intrinsically rewarding activities;

(3) learning-on-demand needs to be supported because change is inevitable, complete coverage is impossible, and obsolescence is unavoidable;

(4) collaborative learning must be supported because the individual human mind is limited;

(5) skills, processes, and mindsets that support learning as a lifetime habit must be developed.

http://www.cs.colorado.edu/~l3d

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directed learning, information contextualized to the task at hand, (intrinsic) motivation, and collaborative learning.
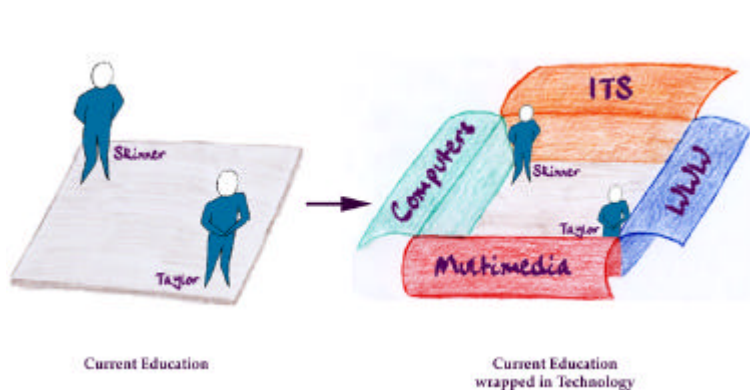
The "Gift Wrapping" Approach —Adding Technology to Existing Educational Practices

The figure above illustrates the *"gift-wrapping"* approach in which technology is merely wrapped around traditional frameworks for education. The image below indicates what is needed instead: a richer conceptual framework, leading not just to the addition of technology but to the weaving of technology into innovative ways of learning, working and collaborating.
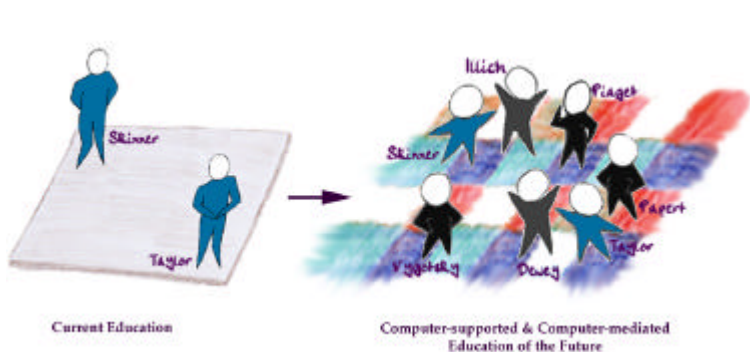
Rethinking, Reinventing, and Redesigning Educational Theory and Educational Practice

The current debate about the ability of computation and communication to fundamentally change education is based on a number of fundamental **myths and misconceptions**. The most prevalent ones are:

-- *Computers by themselves will change education* -- There is no empirical evidence for this assumption based on the last 30 years of using computers to change education.

-- *Information is a scarce resource* -- "Dumping" even more decontextualized information on people is not a step forward in a world where most of us already suffer from too much information. Instead, technology should provide

Lifelong learning and design

Lifelong learning integrates and mutually enriches the cultures of work and education.

Central to this vision in our research is the notion of *design activity*, a model of work that is open-ended and long-term in nature, incorporates personalized and collaborative aspects, and combines technical and aesthetic elements.

Design is an argumentative and collaborative process, making increasing use of new social structures and new technologies.

Design is centered around the production of new, publicly accessible artifacts.

The relationship between learning and design provides the impetus for the work done at the L3D.

Because design is an essential aspect of all problem-solving activity, and since designers are constantly learning and communicating with each other, the research done at L3D seeks to ground educational theory within the domain of technology that supports design and communication.

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ways to "say the right thing to the right person at the right time in the right way."

-- *"Ease of use" is the greatest challenge or the most desirable goal for new technologies* — Usable technologies that are not useful for the needs and concerns of people are of no value.

-- *The content, value, and quality of information and knowledge is improved just because it is offered in multi-media or over the WWW* -- Media itself does not turn irrelevant or erroneous information into more relevant information.

-- *The "Nobel Prize winner" myth: Every school child will have access to a Nobel Prize winner* -- This was and is one of the selling points for connecting all schools to the Web. While this argument is true at the level of technical connectivity, it is doubtful that Nobel Prize winners will look forward to getting a few thousand e-mail messages a day.

-- *The single or most important objective of computational media is reducing the cost of education* -- Although we should not ignore any opportunity to use technology to lessen the cost of education, we should not lose sight of an objective that is of equal if not greater importance: increasing the *quality* of education.

"Making Learning a Part of Life" creates many **challenges**, requiring creative new approaches and collaboration among many different stakeholders. For illustration, a few of them will be mentioned here:

-- *The educated and informed citizen of the future: 'super-couch potato' or 'enlightened designer'* — Educational institutions must cultivate *designers* by creating mindsets and habits that help people become empowered and willing to actively contribute to the design of their lives and communities. This goal creates specific challenges for computational artifacts, such as the support of end-user development (this challenge is discussed in detail in: Fischer, G. (2002): "Beyond 'Couch Potatoes': From Consumers to Designers and Active Contributors", in FirstMonday,at: *http://firstmonday.org/issues/issue7_12/fischer/*).

-- *The "basic skills" debate* — If the hypothesis that most job-relevant knowledge must be learned on demand is true, we have to ask ourselves: What is the role of "basic skills"? If, for example, the use of software packages dominates the use of mathematics in the workplace, shouldn't a new function of mathematics education be teaching students to use these mathematical artifacts intelligently?

Useful links

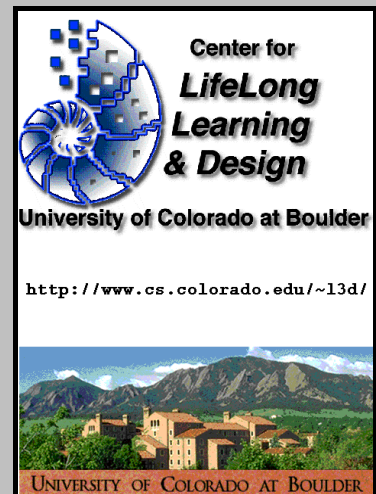CLever Project: ("Building Cognitive Levers to help people help themselves")

http://www.cs.colorado.edu /~l3d/clever/index.html

Center for LifeLong Learning and Design (L3D)

http://www.cs.colorado.edu /~l3d/

The Coleman Institute at the University of Colorado - funded by a 250 Mio US $ Endowment from Bill and Claudia Coleman for research on Cognitive Disabilities

http://www.cu.edu/ colemangift/

Center for
LifeLong Learning & Design
University of Colorado at Boulder
http://www.cs.colorado.edu/~l3d/
UNIVERSITY OF COLORADO AT BOULDER

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-- Can we change motivation? — There is substantial empirical evidence that the chief impediments to learning are not cognitive but motivational. This raises the challenge of whether we can create learning environments in which learners work hard, not because they *have* to, but because they *want* to.

-- School-to-work transition — If the world of working and living (a) relies on collaboration, creativity, definition, and framing of problems; (b) deals with uncertainty, change, and distributed cognition; and (c) augments and empowers humans with powerful technological tools, then the world of schools and universities needs to prepare students to function in this world. Industrial-age models of education and work are inadequate to prepare students to compete in the knowledge-based workplace.

If we want to move beyond *"gift wrapping"* in lifelong learning, we need to reinvent how we think, work, learn, create, and collaborate. We must explore fundamentally new possibilities and limitations of computational media as they complement existing media. One may argue that our current thinking does not address the potential magnitude of the change. Have we arrived at a point where the change is of a similar magnitude to the time when our society moved from an oral to a literary society (and Socrates and Plato were arguing about the trade-offs associated with this change) or when Gutenberg's printing press eliminated the scribes and gave everyone the opportunity to become literate?

In summary: the future of how we live, think, create, work, learn, and collaborate is not out there to be discovered— it has to be *invented and designed* by making learning a part of life.

Gerhard Fischer

– Beyond Europe –

Global learning comes true

Economic interdependence among nations and cultures is spawning a global economy. Globalisation also highlights clashes of divergent cultures and belief systems, both political and religious. If global peace is ever to be achieved, global-scale education, with the use of the modern digital telecommunications, will be needed to create mutual understanding among nations, cultures, ethnic groups, and religions. The Internet is the future of

Prof. Gerhard Fischer

Prof. Gerhard Fischer is a professor of Computer Science, a fellow of the Institute of Cognitive Science, and the director of the Center for LifeLong Learning & Design (L3D) at the University of Colorado at Boulder. Current research interests include new media supporting lifelong learning, human-human and human-computer collaboration, (software) design, domain-oriented design environments and universal design (assistive technologies).

http://www.cs.colorado.edu/~gerhard/

Gerhard Fischer

GUS is present in Africa

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telecommunications and can be a medium for building peace.

Global University System (GUS)[3] aims to build a higher level of humanity with mutual understanding across national and cultural boundaries for global peace. The mission of GUS is to help higher educational institutions in remote/rural areas of developing countries to deploy broadband Internet in order to close the digital divide. These institutions act as the knowledge center of their community for the eradication of poverty and isolation through the use of advanced Information and Communications Technologies (ICTs). A GUS education thus hopes to promote world prosperity, justice, and peace, based on moral principles rather than political or ideological doctrines.

GUS has group activities in the major regions of the globe in partnership with higher learning and healthcare institutions. They foster the establishment of GUS in their respective regions, with the use of an advanced global broadband Internet virtual private network. Those institutions affiliated with GUS become members of the GUS/UNESCO/UNITWIN Networking Chair Program located at the University of Tampere in Finland.

The **GUS Amazon Project** will connect six federal universities in the Amazon region by broadband satellite Internet, and Community Development Networks. These will then connect the universities with secondary and elementary schools, libraries, hospitals, local government offices and NGOs, etc., by broadband wireless Internet at drastically discounted rates or free of charge. Similar projects are now starting in Cuba and the Caribbean region, Malawi and Uganda in Africa.

It is expected that GUS will provide the following benefits to students and participating universities:

-- Broadband Internet connection, supporting modern distance education via the World Wide Web

-- Help member universities build a network of facilitators to support eLearners

-- Learners may take courses from different member universities, obtaining their degree from the GUS, thus freeing them from being confined to one academic culture of a single university or country

-- Learners and faculties can promote the exchange of ideas, information, knowledge, and joint research and development of Web-based teaching materials

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Officers of GUS

P. Tapio Varis, Ph.D., Acting President, (University of Tampere, former rector of the United Nations University of Peace in Costa Rica)

Marco Antonio Dias, T.C.D., Vice President for Administration, (former director of Higher Education of UNESCO)

Takeshi Utsumi, Ph.D., Founder and Vice President for Technology and Coordination, (Chairman of GLOSAS/USA)

Dr. Pekka Tarjanne, (former Director-General of the ITU)

Dr. Federico Mayor, (President of the Foundation for Culture of Peace and a former Director-General of the UNESCO)

GUS is also in the Amazon region

Financing GUS

GUS projects will combine the Japanese government's Official Development Assistance (ODA) funds and Japanese electronic equipment with the Internet technology and content development of North America and Europe.

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-- Researchers in developing countries can partner with colleagues in more advanced countries, and perform joint collaborative research and development with the use of virtual reality/virtual laboratories for experiential/constructive learning and creation of knowledge through the emerging global GRID computer networking technology

-- Learners, faculties, and public policy makers can promote community development and many other advances at a local, regional and even on a global scale.

The GUS program is a comprehensive and holistic approach to building smart communities in developing countries for eLearning and e-healthcare/telemedicine. Initiatives are underway to create the necessary infrastructure and educational liaisons, and some near-term educational access is expected. Early efforts have included international teleconference technology workshops that have tested the satellite/wireless technology that will be used in GUS.

GUS is clearly an ambitious program, one that cannot be achieved by any one group, university, or national government. The program requires substantial collaborative contribution of ideas, expertise, technology resources, and funds from multiple sources. Those who value the vision of GUS are invited to join this great and noble enterprise.

Takeshi Utsumi

– **Synergies with other initiatives** –

ePortfolios: Revolutionising eLearning

So if you really want to know what eLearning is about, and what is really unique about it, take a close look at the ePortfolio. While the paper-based portfolio has been already used by millions of people across the world (in the UK alone, more than 3 million people have obtained a qualification through building a portfolio), the ePortfolio is not some kind of 'paperless' portfolio, but a tool and a practice that could change our vision of learning, in particular the link between individual, organisational, territorial and societal learning. The ePortfolio is the *open sesame* of the eLearning revolution, the object that could provide an insight into what learning in a knowledge economy and society is about: it's not about 'distance' or 'blended' learning, nor about 'more' technologies. It's about transforming learning, all forms of learning. The ePortfolio is the recognition that learning is a social activity.

Dr Takeshi Utsumi

Dr Takeshi Utsumi is the Founder and Vice President for Technology and Coordination of GUS and the Chairman of the GLObal Systems Analysis and Simulation Association in the U.S.A. He is the 1994 Laureate of the Lord Perry Award for Excellence in Distance Education.

He has been lecturing, consulting and conducting research at many universities, governmental agencies, and large firms in Japan, the USA and other countries.

utsumi@columbia.edu

Portfolio definition

A personal collection of information describing and documenting a person's achievements and learning.

There is a variety of portfolios ranging from 'learning logs' to extended collections of achievement evidence. Portfolios are used for many different purposes such as accreditation of prior experience, job search, continuing professional development, certification of competences. Tens of millions of people across the world have already used some kind of portfolio.

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ePortfolio: the true nature of the eLearning revolution

The first wave of the eLearning revolution was (and still is) mainly focused on delivery: Learning Management Systems (LMS), to organise the delivery of learning material; Learning Content Management Systems (LCMS) to create the learning material; Virtual Learning Environments (VLE) to deliver learning. In fact, the use of the 'learning' is hardly accurate, as the reality of the provision is still mainly about training. Although we know that probably more than 80% of what we learn is learned informally, the first wave of eLearning has been almost exclusively focused on formal learning. The 'newest' concept of 'blended learning' reinforces the focus on the delivery mechanism: 'mixing' face to face and distance training. We have not moved very far beyond the simplistic vision of eLearning as 'technology enhanced learning.'

The ePortfolio is neither a *technology enhanced portfolio*, nor a *paperless* portfolio; it is transforming our vision of what a portfolio (and learning!) is. Until now, a portfolio was essentially[4] the presentation of a collection of evidence for a specific purpose. The nature of the presentation, and of the evidence contained, would differ according to its purpose. Paper-based portfolios were mainly focused on contents that would support a limited number of processes. Each individual would have his/her own portfolio, whose destiny was generally to end up collecting dust on a shelf, once its original function had been fulfilled.

The ePortfolio is not simply a collection of evidence, but a tool for developing one's own knowledge and competencies, a kind of virtual representation of oneself, that, like a Tomagoshi, dies if it isn't fed regularly with new knowledge and evidence of competencies. Moreover, ePortfolios can be connected together, in an organisation (a school or a company), a group (a professional community or a community of practice) a territory (a country, a region or a city), making the ePortfolio the organic link between individual, organisational, community, territorial and societal learning.

While the first wave of eLearning technology was mainly organisation-centred, the ePortfolio places the focus on the need to develop a new generation of tools that are completely centred on the person. And in doing so, the ePortfolio as *individual learning planner*, or *continuing professional development planner*, or *personal knowledge management toolbox* can become the hub, from which each individual will have the power to join, create and organise learning communities, at his/her school or the

ePortfolio definition

1: A portfolio using electronic media and services;

2: A personal digital record containing information such as personal profile and collection of achievements;

3: Ubiquitous, portable, electronic knowledge databases that are private, personalised and shareable, and are easily accessible via the web (Stanford University Learning Lab).

An ePortfolio can be a combination of mixed media and services (e.g. a 'traditional' portfolio combined with online services for assessment). An ePortfolio can be either off-line (e.g. smart card, DVD) or on-line (e.g. personal profile repository), or a combination of both.

ePortfolios can be either stand-alone media or interlinked through peer-to-peer services.

Whatever the format, an ePortfolio is owned by one person, and one person only, who has complete control over its content and access.

What gives ePortfolios the edge over 'traditional' portfolios is the considerable increase in the number and quality of services that can be provided to individuals and the community. In order to make these services widely accessible, ePortfolios must comply with interoperability standards.

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university, professional association, workplace or local community.

The networked ePortfolio

The ePortfolio is the expression of learning as a social activity. In early eLearning systems, the social dimension of learning was generally catered for by 'enhancing' basic delivery mechanisms of training material, through the adjunct of synchronous or asynchronous discussions, such as fora or conferencing systems. The ePortfolio, on the other hand, starts with the assumption that learning is a social construction, putting connectivity at the centre.

Beyond a repository of knowledge and skills (content), an ePortfolio is a connectivity tool, a tool for sharing knowledge through communities (context). It can be viewed as some kind of *context management system* – as opposed to current eLearning solutions that are mostly focused on *content management systems*.
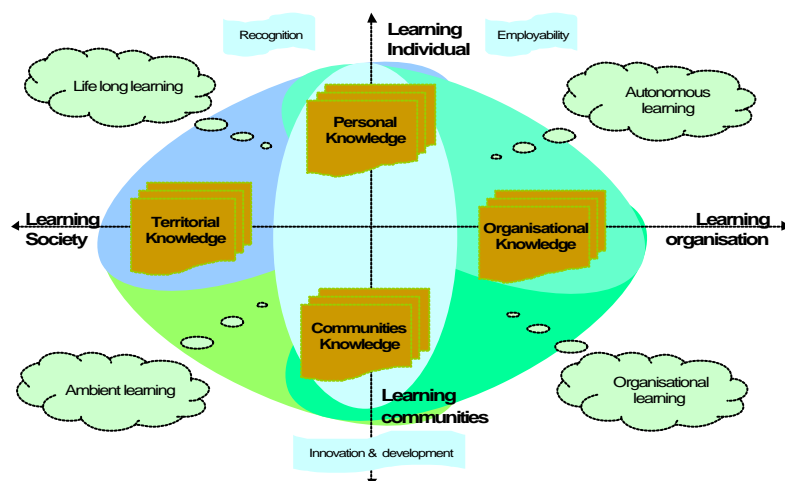
The keyword for this process is *factorisation*. In a paper-based portfolio, if a group of people produces the same piece of evidence for assessment purposes, the evidence would have to be duplicated (or referred to) in the different portfolios. Now, with an ePortfolio, instead of each individual holding a copy of the same piece of evidence, it can be placed in a common repository, each ePortfolio simply providing a reference (link) to this element. The departure from a paper-based portfolio is not so much that the evidence now is digitised, but that it is possible to start from one ePortfolio, look at a piece of evidence, and in the process of doing so, have access to the other ePortfolios referring to the same document providing more 'contextual information': Who were the people I worked with? What are they doing now? The contextual information also reinforces the validity of the piece of evidence, increases its value,

ePortfolio services

Services provided on the basis of the information stored in a personal record. Services range from assessment support (tracking individual achievements), to orientation, evaluation, validation, course finding and registration, adaptative pedagogy, job-hunting, continuing professional development, community building, etc. Services can be provided by learning management systems, human resource information systems, employment agencies information systems, professional portals, etc. Services can be centralised or distributed on a peer-to-peer model.

ePortfolio standards

ePortfolio standards cover a wide range of issues such as document format (e.g. pdf, html, xml, etc.), accessibility (e.g. WAI), data format (e.g. learner profile), authentification (e.g. certificates), access right, etc. IMS specification such as LIP (Learner Information Profile) and content packaging, are some of the elements that could be included in future ePortfolio standards.

and furthermore, elicits the social context in which the activity and the outcomes took place.

In order to imagine what a **networked ePortfolio** could be, we might use Napster as an analogy: sharing data in a peer-to-peer network. This raises issues of privacy – I want to have the choice of 'hiding' the link to other ePortfolios, or making sure that its content will not disappear into the limbo of cyberspace (so I can keep a local copy of the document, rather than a reference). It is therefore even more important to provide full control to each individual regarding what information can be accessed, by whom, when and how. Managing one's ePortfolio is also a demonstration of information and media literacy: it should, for example, enable individuals to obtain a European Computer Driver Licence (ECDL *http://www.ecdl.com/*).

Being networked, I could find peers interested in joining in common activities, find an employer who might be interested in my abilities, get accredited for what I've learned through my experiences, including formal and informal learning. The networked ePortfolios of a school, organisation or region can establish the school's, organisation's or region's ePortfolio. Does this seem far-fetched? As a potential student of a university I might want to have access to that part of the university's ePortfolio concerning a particular course – its history, how it has evolved, how the previous students appreciated the course, etc. By interconnecting ePortfolios, I have more contextual information (not just the content of the course!) that will help me to decide if it is the right course for me – through access to the professors and other students' ePortfolios (as much, of course, as is publicly available). If we accept the aphorism '*I work, therefore I learn*', then I should also be able to check whether my future employer does really provide learning opportunities and whether all my learning might get a chance of recognition: I will thus be interested in the company or organisation portfolio.

Of course, we will have to learn how to build good ePortfolios, as well as identify good ones, and use the information and links provided effectively. The structure of the ePortfolio will reflect the professional as well as the social skills of an individual: some ePortfolios will be like hubs of knowledge, linking to many different ePortfolios (colleagues, peers, clients, family, etc.), while others will be less interlinked, but might provide more in depth view of a specific subject.

The ePortfolio is also a wonderful potential candidate tool for quality assurance; unlike traditional quality assurance systems that are organisation-centred, the ePortfolio is

Maureen Layte

Maureen Layte is a specialist in competency-based development and assessment, and open and flexible learning and eLearning.

She is currently Director of Development for EIfEL responsible for the international development of the Institute as well as the production and implementation of standards of competence for eLearning practitioners; the European Consortium for the e-Portfolio and the production of a bi-monthly newsletter on European eLearning.

She is project manager for a major European project, SEEL, and is involved in five other European projects.

maureen.layte@eife-l.org

person-centred, and if all the staff of an organisation have an ePortfolio, it can provide a total vision of the different activities contributing to the organisation's objectives. ePortfolios have the potential to provide a complete and transparent tracking system, permanently updated by all the staff.

ePortfolios are also good candidates for becoming the elementary bricks of knowledge management systems: as ePortfolio creator UMD (University of Minnesota Duluth) Associate Professor Paul Treuer said,

"Every individual can and should be enabled to manage and distribute and control his/her own personal digital information. This is the future of individual records management. This is the future of knowledge management. And ePortfolio provides the technology for that future."

The ePortfolio will reflect our ability to learn as well as our ability to share what we have learned with others, and our ability to get feedback from others on our work, social or learning activities. The ePortfolio is a tool that can transform social interaction.

ePortfolio: a learner centric technology recognising the social dimension of learning

In the UK, Wales has decided to provide ePortfolios to its 3 millions citizens, while, last May, the state of Minnesota in the US announced that the Minnesota State Colleges and Universities had launched an ePortfolio that will enable students, teachers and jobseekers throughout the state to create their own Internet-based portfolios. The UK's Royal College of Nursing, the largest professional association in Europe with 350,000 members, is providing an ePortfolio for continuing professional development (CPD) and re-registration. In Canada the Ontario College of Pharmacists has been committed to the learning portfolio (now in electronic format) since 1996:

"It remains as a model for the one document that you are expected to maintain throughout your career to ensure quality assurance in your practice and in the profession as a whole…..The learning portfolio is not designed to be merely a reference file for completed learning activities nor a depository of journal articles that you want to keep. Rather, the portfolio is a "living document" that you can use to identify, track and record the progress you make in your professional learning activities."[5]

The College also uses information collected in individual portfolios to track learner needs and plan provision.

Serge Ravet

Serge Ravet is Chief Executive of the European Institute for e-Learning. With a background in information technology and learning technologies, Serge combines both technological and pedagogical expertise. He is joint co-ordinator of the European Consortium for the ePortfolio.

Serge is a consultant in eLearning and the development of competence-based learning and assessment. He is retained as an expert in the assessment of innovative projects for a French government department and has participated in numerous European projects. Publications include 'Technology-based Training' (Kogan Page, 1997) and 'Valider les Compétences avec les NVQs' (DEMOS, 1999); a Guide to eLearning Solutions (2001) and numerous articles.

sravet@eife-l.org

Serge Ravet

As we can see, we have moved beyond the small experiment or 'pilot programme' stage, and are beginning to benefit from economy of scale. But in order to benefit fully from the power of the ePortfolio, we need to establish the standards that will make them interoperable with various information systems: at school, university, work, public and social services.

If we make the ePortfolio accessible to all citizens (ideally one portfolio with different purposes and usages, as it is planned in Wales), it should become an important agent for social change. A tool capturing the social dimension of learning for supporting the social change required to enter into a knowledge economy and society: this is what the ePortfolio is about. This is what Europortfolio, the European Consortium for the ePortfolio aims at supporting.

Serge Ravet & Maureen Layte, ElfEL

– Events –

Online Educa Berlin 2003, 3 to 5 December 2003

The 9th edition of world's largest international eLearning conference and Europe's leading annual gathering of distance education professionals will take place in Berlin. The 2002 event gathered 1127 participants from 64 countries world-wide. You can meet there the experts in the vanguard of technology-supported learning from around the world.

www.online-educa.com/en/

ELearnExpo Paris 2004, 24 to 25 January 2004

The 8th edition of ELearnExpo will be held in Paris. The show normally attracts between 5000 and 7000 visitors and about 250 conference delegates. The event features conferences in English and French, with international keynote speeches from industry leaders, moderated expert tracks to cover hot topics in depth as well as hands on workshops.

http://paris.elearnexpo.com/

ElfEL

ElfEL, the European Institute for E-Learning, is a European professional association dedicated to the support of the continuing professional development of individuals and the transformation of organisations who wish to enter into the knowledge economy and society. Activities include the production of a set of standards of professional competence; an eLearning tools and market observatory; the creation of the European Consortium for the ePortfolio; the establishment of a European Centre promoting (e)learning quality and (e)learning regions; participation in, and co-ordination of several European projects in eLearning.

www.eife-l.org

Links this winter

http://bfranklin.edu/gld/

On this website, you will learn all about the 7th Global Learn Day that will take place on November 16, 2003. Each year, an annual 24-hour, non-stop round the world "voyage" which showcases highly innovative activities in education and internet technology from 24 time zones is organised.

http://thot.cursus.edu/

This is a very interesting French language weekly online magazine focused on distance learning, mostly in French speaking countries (Canada, Europe, Africa and the Middle East). Headquarters are located both in Bordeaux, France and Québec, Canada and the team is from various French-speaking countries.

LEARNTEC 2004, 10 to 13 February 2004, in Karlsruhe, Germany

This is the 12th edition of the European conference and Specialist Trade Fair for Education and Information Technology. The conference with workshops will once again offer one platform for visitors and exhibitors to share information and experience.

www.learntec.de/

eLearn International 2004, 18 to 19 February, Edinburgh, Scotland

Building on the success of 2003's inaugural session, the 2004 event promises to be just as thought-provoking and more practical. Unique events include a scenario forecasting exercise – which is at the very heart of the summit. Through a series of searching presentations, you are invited to explore possible futures for the industry.

www.elearninternational.co.uk

Third EDEN Research Workshop, 4 to 6 March 2004, Oldenburg, Germany

The theme throughout will focus on research and innovative practice in the effective support of learners in distance education and eLearning and will provide the opportunity for an exchange of ideas, experiences, and best-practices in student support in ODL within the different and varying contexts of both academic and corporate provision.

www.eden.bme.hu

New on Learningcitizen.net

ResultSMART

This new service promotes the results from the Learning Citizen projects to future adopters.

www.learningcitizen.net/resultSmart.shtml

Visions and experiences

Watch our new video clips where European citizens, researchers, politicians, entrepreneurs and developers give their views on why Technology Enhanced Learning can improve Life Long Learning for all.

www.learningcitizen.net/clips.shtml

"The Learning Citizen" at the European Parliament

During the meeting of the European Parliament on September 11., 2003, LCCN had the privilege to present "The Learning Citizen" initiative to the members of the **Committee on Culture, Youth, Education, the Media and Sport** (CULT).

The Learning Citizen **projects** FELLOWS, PED-CARE and HERO each introduced their work and results, while the LCCN team called attention to the general political and social implications of present development and visions for the future of learning in Europe.

This action aimed to support the current efforts of the European Parliament to foster the effective integration of Information and Communication Technologies (ICT) in education and training systems in Europe.

This Newsletter is published by the LCCN team:

Claudine Debray
debray@arttic.fr

Dominique Wasquel
wasquel@arttic.fr

Francis Wray
f.wray@e-mediate.co.uk

Paul Crompton
pdc@arttic.be

Valérie Mellier
mellier@arttic.fr

Manfred J. Heinze
m.heinze@e-mediate.co.uk

If you wish to contribute to the next newsletter, please contact editors@learningcitizen.net

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[1] Wire Area Network

[2] The European Commission has developed a European Credit Transfer System, which provides a way of measuring and comparing learning achievements, and transferring them from one University to another in the European Union and the EEA and associated countries. *http://europa.eu.int/comm/education/programmes/socrates/ects_en.html*

[3] Currently institutions in GUS: University of Tampere, UK Open University, Havana Institute of Technology, University of Malawi, Uganda National Council for Science and Technology, McGill University in Canada, Maui Community College, University of Salerno, University of Twente, Catalunyan Open University, and many others

[4] There are different types of portfolios from 'reflective portfolios' used for learners to reflect on their learning, to 'certification portfolios' used for accreditation of prior learning or experience, through 'extended résumés' for searching a job.

[5] Source: UMD News, 18.02.03: *http://www.d.umn.edu/news/2003/February/18.html*