



➤ (continuation from page 1)

very good foundations before you build a good building. The next step now though is, of course, to know what kind of building you want. So you've got to add the educational part on top of the IT and fully exploit the good foundations you've got. For instance if you're putting down a really good foundation to a building you don't want to put a little wooden shack on top of it.

It's a challenge to create an academic structure that fully exploits the potential of the information technology infrastructure. The second thing I believe in very strongly is that in the 21st century students will take information technology for granted and that it will be part of everybody's work. So universities really have to integrate information technology in today's teaching and learning so that students are using technology at university in exactly the way they will be using it in their every day lives, both for work and leisure and so on. For the new jobs, the ones that will pay the best money,



they are going to need to graduate, from whatever discipline, with the skills needed in an information technology. That can't be done without integrating ICTs into every subject area. It should be possible for a doctor to know how

to get on to the internet to find the latest drug treatment, or to know how to use his computer and other electronic equipment in patient diagnosis and so on. It becomes more important to know how to keep up to date with changes in the knowledge base of each profession, and that's how information technology can really help. You don't have to go back to university to see your professor; you can do that while you're working. However, universities have to build the academic and organizational infrastructure to allow that to happen.

**Q: You have already said that we have a good ICT in Croatia; do you have any recommendations for the University of Zagreb on how to move on from having ICT to implementing it in teaching and education and using e-learning within it?**

**A:** It has to be done in a systematic matter. It can't be just left to each individual professor to try to work out what to do. Here, the university administration has a very big

responsibility to show leadership. Leadership in two ways: one to indicate to the whole university community that e-learning (the use of technology for teaching) is a critical and essential element of the university's work and that has

to come from the top, from the rector and vice-rectors down.

**The university administration has a very big responsibility to show leadership indicating that e-learning is essential element of university's work**

Vice-rectors have to get the deans to understand why it's important and then at the academic level, at faculty and department level, they have to really think about how they want to teach and they want students to learn over the next five to ten years, where information technology and computers fit into that 'vision' of teaching. This goal for teaching and learning has got to take into account not just regular students who came out of the high school but particularly now life long learners, graduates from the university, who need to keep up to date if they are going to compete in Europe and the rest of the world. Graduates will need continuing access to university for life long learning and that has to be budgeted for and has to be supported at the academic department level. This is quite a big challenge for the universities. It's also an opportunity because a life long learning market is not like the high school market; it's not dependent on state funding. This is a market where people are in the workforce. They are earning good money and it pays them to keep up to date with the subject. That's another way of bringing new revenues, new professors into the university and improving the working conditions in universities. So it's a tremendous opportunity for them.

**Q: Do you think that universities will have to change not only in the way they teach but in a type of students and teachers they have?**

**A:** Yeah. Suddenly, the types of students are changing and we are finding in Canada for instance, that our students are older, more and more part-time and they want more flexibility in their teaching. They don't want to be there from 9 to 5. Some do - the younger ones coming from high school, they want to be there for a football, girls and boys. And universities still have to provide that kind of face-to-face environment. But basically universities need to diversify a great deal now. That's another reason why the senior management has to be very thoughtful about focus and direction of the university. Some universities may want to stay very traditional with just creaming of the best students out of high school and focusing on being very much a research university. But I think there is room for only one university like that in every country, in a country the size of Croatia anyway. The other universities have got to be entrepreneurial, they have got to be much more innovative in what they do and have to deal with the new markets and so on. The other thing is that the universities have to work more in partnership, as they are often seen as competitors. What we have seen now is universities creating niches in the market and deliberately not doing some things to allow other to focus more what they can do best. So the small universities like the University of Dubrovnik can do things that large universities like the University of Zagreb can't do. And it's really important that management of those institutions work together so that they make sure that the whole system covers the needs of the students.

*Interview by:  
Sandra Kučina-Sofrić,  
University Computing Centre*

➤ (continuation from page 1)

Finland: ICT in university education: From pilot projects to established practices

- **Prof. Blaženka Divjak**, University of Zagreb, Faculty of Organization and Informatics: Imaginative Acquisition of Knowledge
- **Dr. Marta Žuvić-Butorac**, University of Rijeka: University of Rijeka - E-University
- **Enc Tammeoru**, Estonian E-University, Tallinn, Estonia: Strategy of building a consortium type e-university
- **Dr. Maria Pinto**, University of Porto, Porto, Portugal: E-

and **J. Tingle**, Croatian Academic and Research Network CARNet: Standardization and Valorisation of Digital Educational Materials

- **Zoran Löw**, Cognita, Zagreb: The other side of e-learning: What can go wrong?
  - **Dr. Đuro Njavro**, Zagreb School of Economics and Management: The Role of the Management in the Development of the E-Learning System
- As an introduction to the workshop on March 2, 2006 (a day before the workshop) dr. Tony Bates gave a lecture with



broadcasted to the University of Dubrovnik, Rijeka (locations in Rijeka and in Pula) and Split. Web streaming was available to all interested parties.

and the need for new teaching and learning in the higher education environment, the promising role of information and communication technology

## Conclusions from the workshop report

- ✓ **The shift to knowledge based society means that teaching and learning have to change**
- ✓ **We are on the way from learning to e-learning and to (new) learning**
- ✓ **E-learning to be an integrated component of an academic plan**
- ✓ **The move to e-learning is a strategic not technological decision**
- ✓ **E-learning - the way to foster Bologna process**
- ✓ **E-learning as overall university project - opportunity for integration of the university**
- ✓ **E-learning infrastructure should be a part of university overall ICT infrastructure**
- ✓ **E-learning portal - universal students' portal to the university world**
- ✓ **Environment readiness and availability of sustainable and reliable support as key factors for e-learning implementation**
- ✓ **Importance of promotion opportunities and awarding system for university teachers practicing e-learning**
- ✓ **Implementation of e-learning is cooperative task for government, university and faculty management, teachers/professors and students.**

Learning@UP: Implementing E-Learning at Traditional University

- **Prof. Blaženka Divjak**, University of Zagreb, Faculty of Organization and Informatics

the title "E-Learning: Why Strategic Planning is Essential for Success?" Lecture was presented in University Computing Center (Srce) of the University of Zagreb and by videoconference

More than 50 participants contributed to workshop presentations and discussions. We welcomed the participation of dr. Diana Šimić, Deputy State Secretary in Central Administrative State Office for e-Croatia, dr. Zrinka Kovačević, Assistant Minister for Higher Education in the Ministry of Science, Technology and Sports, Prof. Aleksa Bjeliš, vice-rector of the University of Zagreb, vice-deans of six faculties of the University of Zagreb, as well as all other participants representing university teachers and students.

The common leitmotifs of the workshop were the idea

as a catalyst and a tool for change, as well as e-learning as a tool for fostering implementation of Bologna process at higher education institutions.

The full version of an official workshop report will be available on EQIBELT project website. In the meantime you can look at other workshop materials, including all presentations, already available at <http://eqibelt.srce.hr/workshops/dubrovnik/>.

*Zoran Bekić,  
project coordinator and  
workshop chair*



**Interview: Professor Aleksa Bjeliš,  
former vice rector for science and research, University of Zagreb**

## **Importance of knowledge based society**

**As a research University we should never forget that we should always promote and produce new leaders in the different parts of the society - people who will be ready to make big steps, innovations, advances in research, in technology and other activities in the society. After forming Development Fund at the University of Zagreb, there should be some space within this fund for supporting e-learning activities in a much more regular way.**

**Q: How important for Croatia is (creating) the knowledge based society?**

**A:** As for Croatia and the knowledge based society, I think that, as somebody told us at this meeting, some kind of response to the previous ways and the previous system in the economy is being formed in general in the society. In fact, new attempts, new groups of people are opening from below the space for the new knowledge based society and, before that, for the knowledge based economy. I think that this is the process which will take some time. It will, as we already know now, last for 10 or 15 years and perhaps in some period in the future we will have rather sharp controversies and social conflicts between different parties involved. There will be more and more differences among the parts from the previous system which will feel more and more as societal group which cannot find its place and its purpose in the society, and there will be new people who will be engaged in the initiatives which will be strong enough to make a real progress. As for the University, when we speak about the knowledge based society, our duty and our mission is to make possible good study programs, good system of higher education in which we will give to new generations the best way and the best chances to get proper competences, skills, and knowledge in order to be



**During the workshop...**

ready and to be able to confront real life. As a research University we should never forget that we should always promote and produce new leaders in the different parts of the society - people who will be ready to make big steps, innovations, advances in research, in technology and other activities in the society. This is of course a primary purpose of the research university and, more precisely, this is the reason why we are now very much concerned with the future situation regarding the doctoral studies and the research background. In

the wider sense the knowledge based society means that we should offer good opportunities to get, as I have said before, a starting point for entering the job market after three or five years to a large number of students. They have to be competitive not only in Croatia but also in the wider entrepreneurial market. In future one will not be able to distinguish between these two since, due to the opening of the frontiers, the job market will be much more correlated between different states, so that the competition will imply in

fact the competition on a much wider scale.

**Q: Do you think that the implementation of e-learning at the University of Zagreb will increase the number of students who are going to finish their studies because of those who seek the shelter from the market and they are working instead of the studying?**

**A:** It is difficult to precisely estimate but it is definitely true that in our cohorts of students we get each year certain students who are perhaps more socially

forced to go to the university since they do not have any other chances in the job market especially as the young people, and they do not have real chances to start their adult lives without further education. Having so big numbers and having still quite large drop-out and prolongation of the studies, we should be honest and ensure providing this people with a real opportunity of studying. The Bologna process is in fact an attempt to put in the focus the students and to provide convenient conditions for students as much as possible, to enable them to go through their studies in a more efficient and a more successful way. Obviously, we always have a same problem and that is an

insufficient number of teachers and lectures. An average number of lecturers and students we have at the University is quite in the range of the European standards. However, we have big deviations in these numbers within the University. The big problem is also the overcrowded space which cannot support proper study process and proper conditions for teaching. E-learning could in a way facilitate the situation, offering an increase in the quality of education and relations between teachers and students, and giving to students chances to be more active, initiative and creative in their studies. All that could be achieved by e-learning methods which of course should not be treated as some kind of

panacea. After seeing some good examples in this conference, I think that this is an encouraging starting point for the future. The university leadership will have to consider this process much more seriously, using the present project as a good support, as a good trigger for making concrete actions and more concrete steps. Some of the ideas along these lines we have heard here. I could perhaps mention that, after forming the Development Fund at the University, there should be some space within this fund for supporting e-learning activities in a much more regular way. This includes the establishment of the technical support and of all kinds of prerequisites which will enable lecturers and teachers to make a

step forward in that direction. Also, another small idea appeared in the discussion that one possible measure could be to offer a short one-year postgraduate specialist course with a curriculum which would cover all the aspects of e-learning as we have learnt these days. The relevant framework is really wide, and does not include only technical topics or information science, but also societal, psychological, economical, educational aspects. So this is really a complex topic and as such is a good option for an interesting university study program.

*Interview by:  
Sandra Kučina-Sofrić,  
University Computing Centre*

**Interview: Professor Wim Van Petegem,  
Director of AVNet, University of Leuven,  
Belgium**

## **ICT best contributes higher education when being invisible**

**E-learning environment has become such an important asset of the university that even the students are forcing us to transform it into the global university (e-) portal**

**Q: How can information and communication technology contribute the best to higher education?**

**A:** In my opinion ICT best contributes higher education (and actually, in general) when being more or less invisible. ICT should be everywhere and nowhere; ICT should support, empower and enable education in all its different aspects. On the other hand, the specific ICT in education, i.e. for e-learning and its variants, should be embedded within the overall

ICT structures and systems at the institution to have one common (digital) learning environment to support all educational activities and related. The hype of ICT as prominent innovation tool in education is probably over, and this is best summarized in 'from learning over e-learning to learning again...' Let's focus on the learning process and take ICT support just for granted.

**Q: How effective is e-learning at your institution?**



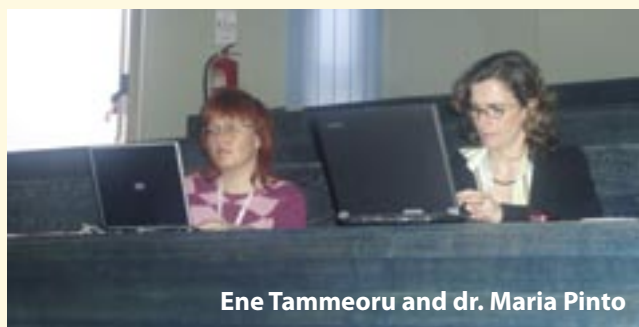
**A:** E-learning is not replacing any other learning process at K. U. Leuven. It is simply one modality of learning, together with many others. Our institution has chosen a blended approach and only very small steps are taken to set new target groups completely oriented towards distance education and e-learning. However, being part of the overall educational policy and embedded within the overall pedagogical framework (in our case 'guided independent

learning'), the specific e-learning initiatives in our institute all fit within the Toledo-project (the name for our university-wide digital learning environment). With appropriate central and decentralized support teams and advisory boards at all managerial levels within the organization this environment has become such an important asset of the university that even the students are forcing us to transform it into the global university (e-) portal.

**Ene Tammeoru**  
Head of the Estonian e-University  
Estonian Information Technology Foundation, Estonia

**Q: How effective is e-learning at your institution?**

**A:** The development and implementation of e-learning has most significantly contributed to the increase of effectiveness in assessing and reorganizing different learning processes in the Estonian higher education as well as initiating cooperation between universities. The fact that e-learning is a part of the learning process has opened new possibilities for the consortium members and the use of ICT is in itself an instrument to enhance effectiveness.



Ene Tammeoru and dr. Maria Pinto

**Dr. Maria Pinto**  
University of Porto, Portugal

**Q: How did you decide to start using e-learning at your university?**

**A:** The University of Porto (UP) has been investing efforts in minimizing the difficulties associated with the geographical dispersion of its 15 schools. It has been trying to reinforce cohesion among the institution through the improvement of the communication and collaboration structures provided by the use of the technologies associated with the Internet. It promotes several initiatives with a collaborative approach and also encourages the sharing of different resources among the schools.

The promotion of active cooperation among all agents of UP in education, training, research and global development towards the levels of excellence, has been the main concern for a long time.

Since 1999, e-learning has been considered a good strategy for the entire university and also as a good agent form of innovation, creativity and change for the whole academic community and the involving society.

E-learning at the University went through several different stages and it's now in a very important status, with many teachers and students involved in the process and we hope to get valuable results from this experience.

**Heikki Hallantie**  
Development Expert, Teaching and Learning Development  
Helsinki University of Technology,  
Lifelong Learning Institute Dipoli, Finland

**Q: How can information and communication technologies contribute the best higher education?**

**A:** ICT should be and mostly is an integral part of all development in higher education. I see the biggest role of ICT is enabling technology for co-operation among higher education units within one country and especially internationally.

It will lead to the creation of new kind of communities, which are created and developed based on trust and common personal interests.

The future, towards which higher education institutions develop, can be considered as a global network of networks.

**Q: How effective is e-learning at your organization?**

**A:** E-learning in our organization has passed experimental phase and is now an integral part of teaching and learning.

The development focus at the moment is on integrating all system elements related to teaching and learning and creating a unified portal solution common for all teachers, students and administrative personnel.

Observations from a study visit to University of Leuven

## E-Learning at University of Leuven

**Guided Independent Learning - overall pedagogical platform as a framework for e-learning  
TOLEDO - Digital Learning Environment at University of Leuven as University Educational Portal**

The study visit to University of Leuven (Katholieke Universiteit Leuven, Leuven, Belgium, <http://www.kuleuven.be/>) was one of the study visits planned within the framework of the

EQIBELT project. The purpose of study visits of the representatives of Croatian universities to European universities - partners in the project consortium - is to advance knowledge and experience

transfer through direct contacts, presentations and discussions with experts and practitioners in the field of education and e-learning, to learn best practices, to discuss and analyze successful and unsuccessful

projects and initiatives within EU universities and to have on-site practical overview and experience on organization and delivery of the support in the field of e-learning. The program of the study visit was



proposed and prepared by Prof. Wim Van Petegem, Director of AVNet at K.U.Leuven. The study visit was a good opportunity to get acquainted with different aspects of e-learning at this well-known and one of the oldest and most prominent European universities. During the visit all aspects of e-learning, starting from strategic questions and ending with day-to-day operations and support were presented and discussed.

We were introduced to the organization of the university (14 faculties, 30.456 students, total staff 16.189 FTE: academic staff 1396, research 3891, admin.&tech. 2730, university hospital 8172), positioning and interrelations of different bodies and groups responsible for

strategic or operational aspects of education, information and communication technology and e-learning. Important parts of presentations were the history, current state and future plans for TOLEDO - Digital Learning Environment of K. U. Leuven and AVNet - Audiovisual and New Educational Technologies, department within the university, which supports teachers in using information and communication technology in education.

All presentations and materials collected during the study visit, as well as a full report are available at EQIBELT web site at <http://eqibelt.srcr.hr/meetings/studyvisits/leuven.html>

One of most interesting and important lessons learned at



K.E.Leuven is the fact that one of the key factors for success and effectiveness of e-learning is embedding e-learning into overall university educational and pedagogical framework. Guided Independent Learning (GIL) is such a framework for K.U.Leuven (see: <https://www.kuleuven.be/duo-icto/bz/brochuregil.pdf>).

GIL stipulates following objectives of university/academic education:

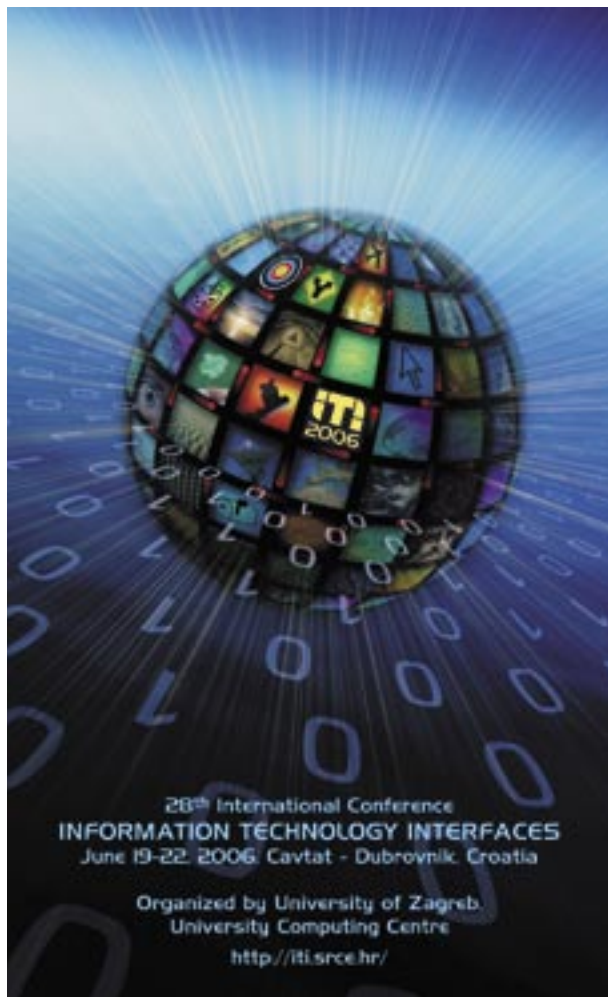
- to be familiar with the results of scientific work placed in time and space;
- to gain insight into the way in which research results are established;
- to be able to interpret new information independently;
- to be able to actively contribute to knowledge development processes;

- to be able to form a substantiated opinion based on critical insight into underlying processes and develop well-founded social viewpoints.

A starting point in GIL is the definition of learning, as an active, constructive, cumulative, goal-oriented, self-regulated, contextualized, social process. According to GIL, the learning process is a student's responsibility. GIL also implies important changes for teachers: they are expected to rethink their educational and pedagogical goals and approach, (re)develop the curriculum, and to support and to coach students during the learning process.

*Z. Bekić*





## INFORMATION TECHNOLOGY INTERFACES ITI 2006

Cavtat - Dubrovnik, June 19-22, 2006

SPECIAL TOPIC OF ITI 2006:

### E-Learning: Opportunities and Challenges for Learning and Teaching

Invited speakers in field of e-learning:

**Erik Duval**, University of Leuven, Belgium & ARIADNE Foundation

**Elsebeth Korsgaard Sorensen**, Aalborg University, Denmark

**Tapio Varis**, Media Education, University of Tampere, Finland

ITI registration and information at <http://iti.srce.hr/>



### PRELIMINARY ANNOUNCEMENT OF EQIBELT WORKSHOPS

Cavtat - Dubrovnik, June 20-23, 2006

**1st EQIBELT Workshop on E-Learning Support Centers**  
(Best Practices in Organization of E-Learning Support Centers)  
June 20-21, 2006

**2nd EQIBELT Policy Workshop: Standards**  
(Standards and Recommendation for E-Learning Tools and  
Content Development, Storage and Usability)  
June 22-23, 2006

Program and registration instructions will be published at  
<http://eqibelt.srce.hr/>

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