Dutch e-Learning in Europe

ICT and Education
Colophon

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Introduction

It was in an alluring metropolitan setting that delegates convened for Online Educa Berlin 2003 (OEB 2003), held from Tuesday 2 December to Friday 5 December. This annual conference is the international information, exchange and lobbying focus for European initiatives and projects on ICT (information and communications technology) and education. Participants included representatives of European institutions of higher education, national governments, supranational organisations, the European Union, and business and industry. Unlike the EDUCAUSE annual conference held in the United States, OEB concentrates much more on educational aspects of e-Learning, viewed and presented from an international perspective.

The pre-conferences, presentations, panel discussions and demonstrations dwelt on the following subjects:
- Learning in Enterprises
- e-Learning Policies in Practice
- New Roles for Teachers and Trainers
- Managing Change in Higher Education
- Innovative Learning Approaches
- Learning in Distributed Environments
- Quality Issues and Management
- Future Technologies for Learning.

Over eighty representatives from Dutch institutions of higher education together travelled to Berlin under a deal provided by SURF.

This is a report on Online Educa Berlin 2003. It includes both an overview of the topics covered at the pre-conference as well as an account of the trends examined at the conference and a review of the forceful promotion of Dutch institutions and commercial enterprises as network, knowledge and trading partners. In preparing the report, material was drawn from contributory reports compiled by the Dutch speakers and presenters of the conference workshops at OEB 2003, as well as the results of an evaluation survey conducted among SURF participants.

Those who provided contributory reports are listed in chapter 3. Appendix I contains a list of the Dutch presenters during OEB 2003. Appendix II has short descriptions of each of the companies and institutions that participated in the Dutch e-Learning Market.

We would like to take this opportunity to thank everyone who assisted in the preparation of this report. We would also like to express our appreciation to those at SURF, the Netherlands Foreign Trade Agency, the Netherlands Council for Trade Promotion and the Dutch Embassy in Berlin who contributed to the success of the Dutch presence at Online Educa Berlin 2003.

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Topics covered at the pre-conferences

2.1 Functions of Electronic Portfolios in Higher Education

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Introduction

A growing number of universities are shifting from a curriculum focused primarily on acquiring knowledge towards one that prepares students for various professional and academic roles. One reason for this is that society is placing increasing pressure on graduates to be able to perform in a wide variety of practical situations. Graduates should not only be able to use relevant knowledge, they should also be able to adequately communicate, cooperate, analyse, reflect, solve problems, etc. To accomplish this, it is not enough that students simply take courses at universities. Programmes should require students to carry out certain recurring tasks in realistic situations. Room for individual development is needed. Such changes call for instruments to help students assess their own skills and capabilities as well as that which they have yet to learn, at the same time monitoring their own individual development. Information of this kind is also important for those who coach students. Instruments are needed also to provide information on whether a student's performance is up to the required professional or academic standards.

The expectation of many universities is that portfolios will fill these needs.

Portfolios

The concept of portfolio has its origins in art and architecture. Artists and architects use portfolios to assemble samples and evaluations of their work. The aim is to convince potential customers of their quality and competence. About two decades ago, portfolios were adopted by educationalists searching for instruments that would enable them to assess the quality of teaching in schools. Since then they have been used for other goals as well, resulting in various types of portfolios. Four common ones are distinguished below.

Assessment portfolios

Portfolios used for assessment purposes only, are usually organized around items such as the students' products, evaluations, photographs and video-recordings. Students use such portfolio to prove their competence. To be convincing they must include information such as their coaches' evaluations and certain key products. To guarantee that students provide assessors with all the necessary information, a list may be supplied containing items required for inclusion in the portfolio. Occasionally, students even receive directions about how to present these items.

Showcase portfolios

Where students are free to determine the content of their portfolios, they most often tend to display examples of their best work or evaluations of that work. These are usually referred to as showcase portfolios and resemble those compiled by artists and architects. Students sometimes use captions to indicate the provenance of items and the reasons for their inclusion. A logical portfolio structure is one that emulates that of a curriculum vitae. Students may use showcase portfolios for a number of purposes, such as introducing themselves to potential employers.

Development portfolios

A portfolio may also be designed as an instrument to keep track of and plan a student's development. In such a case it is referred to as a development portfolio. The term Personal Development Plan is also frequently used. The point of departure here could be a summary of what the student should master in order to obtain a degree. This might be formatted in a table. In the columns the
competences or roles can be depicted. The student can then use rows to note work done on these competences or roles, the results of such work, and the planned nature and direction of further development. Obviously the use of development portfolios only makes sense where there is room for individual development. If all students take the same courses, try to achieve the same goals and are tested in the same way, more efficient systems than a development portfolio are available for tracking and planning the development of students.

Reflective portfolios
When portfolios are used for the purposes of monitoring student development, it is important to know how students themselves evaluate and analyse it. Therefore it is crucial that portfolios used in this way contain written reflections by the students. These reflections are usually organized around the competences the student should master. Students are asked to reflect on how their accomplishments relate to their goals.

Combinations
Portfolios are usually used for a number of different purposes and in that case possess characteristics of each of the typical portfolios described above. For example, when portfolios are used in a medical school or teacher training department, more is required than simply asking students to reflect on their development. Their reflections may be linked to a Personal Development Plan, enabling the coach to relate the reflections in question to a student's particular phase of development. Furthermore, students are generally asked to underpin their analyses with various kinds of materials (evaluations, work sheets, products) with the aim of validating them and facilitating assessment. Assessment also ensures that students and coaches take working with a portfolio seriously.

Electronic portfolios
Portfolios can become very large and thus difficult to handle, store and circulate. This has led many universities to use electronic portfolios. The IT industry has recently recognized the electronic portfolio as a new market.

For examples see http://portfolio.uu.nl/surf-efolio/links

Dedicated portfolio software can provide specific functionalities that are important when working with portfolio for specific aims. Examples are options to certify specific portfolio items for assessment purposes or to invite a certain person to inspect the portfolio, either wholly or in part, while denying access to everyone else. However, a large number of students use generic software like Microsoft Office and Macromedia Dreamweaver to build and maintain their own web-based portfolios. The cost of specific portfolio-software is not

Figure 1: Factors influencing the successful implementation of portfolios in education
2.2 Streaming Media in Dutch Higher Education

Roel Rexwinkel
SURFnet bv

Introduction

In recent years, the SURF Foundation and SURFnet bv have developed a number of initiatives in Dutch institutions of higher education designed to stimulate the use of streaming media (‘video and audio through the Internet’) in educational and research applications. A brief description of some of these initiatives follows.

SURFnet Video Portal (SVP)

The SURFnet Video Portal (SVP) is a video library on the Internet for Dutch institutions of higher education and research. This portal is a storage place for audio and video material and serves as a broadcasting station. It makes use of a technique called streaming. SVP’s search and paging functions enable users to locate files rapidly. In searching SVP, use is made of standard qualified Dublin Core metadata. Aside from on SVP, the assets (i.e. a video or audio fragment plus metadata) can also be found using the SURFnet Search Engine.

Institutions themselves can place video and audio material on SVP, or use SVP for searching and finding video fragments that via an URL can be included on their own website or in a presentation or publication. SVP supports various video formats, such as MPEG-1, 2 en 4, Real and Windows Media in bandwidths ranging from a few dozen kilobit/s to 5 Mbit/s and in image quality varying from postage stamp format to full-screen DVD quality. It also offers users who themselves wish to produce, process or distribute material, supporting facilities such as cookbooks, manuals, instructions and a video workshop. In addition, SVP offers protection for videos that for various reasons (such as rights or privacy) may only be viewed by a limited group of users.

SVP is part of the SURFnet network linking institutions of higher education and research. The SURFnet network gives users broadband access to SVP congestion-free.

The Webstroom community

The Dutch Webstroom community is a task force made up of experts in the fields of higher education, audio and video (AV) and ICT. Its aims are:

• to gather knowledge about developments in streaming...
video, both in terms of technology and the possibilities of application to higher education
• to make this knowledge broadly available to institutions.

Meeting at least four times a year, the Webstroom task force has a loose make up. Any institution of higher education or associated organisation is welcome to participate. Regular features of meetings include information from SURFnet about new streaming developments and information from institutions about the use of streaming within their own realms. Demonstrations are also given and suppliers are requested to describe and explain their product portfolios in the field of streaming.

A think-tank comprising representatives from higher education, the SURF Foundation and SURFnet shapes Webstroom’s ‘policy’ and agenda.

In addition, Webstroom presents itself from time to time to a larger public. Examples are the SURF Education days and the DIVERSE conference. Webstroom does not limit itself merely to streaming video: since its inception it has also focused on the use of video conferencing in education.

Webstroom pilots
When applying for subsidies, institutions of higher education are called upon to submit proposals for the implementation of educational streaming media pilots. The SURF Foundation (which awards the subsidies), SURFnet and Webstroom decide on the subsidies awarded. A new tranche of subsidies was awarded at the end of 2001. SURFnet facilitated the various projects involved by making SVP and knowledge about streaming available. A criterion for assistance was not only that projects should be technological in character, but also that they answered an educational demand and included an implementation plan. A project manager monitored the projects’ progress. The proposals selected ranged over a number of disciplines: dentistry, ethology, pedagogy and technical business administration.

For the period 2003/2004 a second tranche of subsidies have been awarded based on the same formula, although the emphasis has shifted rather to the evaluation of educational aspects of the use of streaming video. Five proposals, in disciplines ranging from cultural anthropology, movement science, social law, teacher training to small business & retail management, have been selected.

Large-scale educational innovation projects
In addition to the Webstroom projects, a number of educational innovation projects (costing in excess of EUR 100,000) have been carried out in recent years in the field of streaming media and education. One of the first (2000) was Av@lon. Av@lon is a project conducted jointly by the University of Groningen (RuG), the Dutch Institute for Sound and Vision (NIBG, formerly the Netherlands Audiovisual Archives (NAA)) and SURFnet. Over the Internet, 150 hours of audiovisual archive materials have been made available for educational purposes. The aim of the Av@lon project was, via the SURFnet network, to provide educational institutions with streaming video and audio material from the NIBG’s public broadcasting archives. To explore the technical and didactic possibilities of streaming, this material was selected and deployed in the RuG sections Journalism, Modern History, and the Postdoctoral Programme on Radio and Television Journalism. The results and evaluations of this project are posted on the Av@lon website.

User feedback on the Av@lon project has led to the creation of a web based video editing tool. This is a powerful tool enabling teachers or students to mark part of an online audiovisual file. The marked section can later be played back in various ways, such as on a web page or via a link in a Word file.

In 2002 Av@lon was succeeded by the Davideon project, which as an educational innovation initiative was awarded a SURF subsidy. Joining forces in the project are RuG, the Universiteit van Amsterdam and the Christelijke Hogeschool Windesheim and the NIBG. The aim is to make available 1000 hours of public broadcasting material taken from the NIBG archives. In addition, learning modules are being designed for the development of competencies in connection with the analysis of audiovisual sources.

Digital rights
The rights issue is inextricably tied up with the use and reuse of streaming media for education and educational purposes. An example is the reuse of broadcasting material, which involves for example the broadcasting rights of an institution and the use of privacy-sensitive
Material (such as images in which medical patients).

A national approach to this issue is required. Following a SURFnet expertise seminar and a SURF Network Round Table, where experts and stakeholders discussed this issue, it was decided to set up a type of helpdesk facility focusing on rights issues relating to streaming. A Community of Practice (CoP) and a related website will provide institutions with professional support in this area. Furthermore, a team of experts will offer specialist assistance in finding solutions not yet offered on the website. In addition, SURFdiensten bv have been asked to arrange educational licenses with legal organisations for the purpose of using and reusing streaming content (and in particular interesting (public) broadcasting material).

Conclusion
In recent years the SURF Foundation and SURFnet bv have co-operated with institutions of higher education and research in stimulating the use of streaming video for education and educational purposes. They have done so on the one hand by setting up and offering facilities such as SVP to the target group, and on the other by enabling institutions to gain experience with this new technology through both modest and extensive pilot schemes. The role of SURF and SURFnet is to advance, stimulate, co-ordinate, facilitate and support (in part by financial means). These efforts are starting to bear fruit: thirty-five institutions have begun using SVP since it was introduced in 2003. Moreover, in addition to the national Webstroom consultation apparatus, local ‘Webstroom-like’ consulting bodies have begun to appear within institutions in which audio-video, educational and ICT specialists determine where streaming can be deployed within the institution concerned for purposes of education and research. This multidisciplinary approach is essential to ensure that the success of video use in education and research.

For further information:
Foundation SURF: http://www.surf.nl/

SURFnet bv: http://www.surfnet.nl/en/

SURFnet Video Portal: http://video.surfnet.nl

What is streaming video?

Dublin Core Meta-data:

SURFnet Search Engine: http://search.surfnet.nl

Webstroom:
http://www.edusite.nl/webstroom/english/11852

DIVERSE: http://www.derby.ac.uk/diverse
Organised by Webstroom, the 4th DIVERSE Conference will be held in Amsterdam in June 2004.

Webstroom pilots:
http://www.edusite.nl/webstroom/projecten_nederland

Av@lon project: http://coo.let.rug.nl/avalondemo

Virtual slicing machine:
http://video.surfnet.nl/snijmachine/help/hulp-startscherm.htm

Davideon: http://www.davideon.nl

SURFnet Expertise Seminar and Streaming Media:
http://www.surfnet.nl/bijeenkomsten/auteursrecht

SURF Network Round Table, ICT & Rights in Higher Education:
http://www.surf.nl/publicaties/index2.php?hb=1&oid=133

SURF Educational innovation projects:


References
1) The content of this publication was presented as a lecture at Online Educa Berlin 2003.

2) The SURF Foundation is the partnership organisation for higher education and research in the fields of network services and information and communications technology (ICT). SURFnet bv is an operating company of the SURF Foundation, exploiting and introducing innovations to the Dutch computer network that serves higher education and research. Via this network it provides a number of services, including the SURFnet Video Portal.
3) In searching SVP, use is made of standard qualified Dublin Core metadata. Aside from on SVP, the assets (i.e. a video or audio fragment plus metadata) can also be found using the SURFnet Search Engine.

4) SURFdiensten bv grants institutions for higher education and research SURF-licences for a wide range of ICT products - such as software and hardware - at very favourable conditions. SURFdiensten is a subsidiary of SURF Foundation.

2.3 LCMS: Necessity or Mere Hype?

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Introduction
There is a current demand for Learning Content Management Systems (LCMS) in the Netherlands. LCMS is now the buzzword. Several Dutch institutions of higher education are implementing an LCMS. Added to this, many conferences, discussions, vendor-tracks etc. are being organised to promote LCMS. The question is whether there is a real need for them in Dutch higher education, or is it simply hype? This article puts the use of LCMS in perspective.

First of all, a definition and description is given of the concept of LCMS. Secondly, the pressing question is examined whether LCMS is a necessity or mere hype. Thirdly, a brief account is given of the actual use of LCMS in the Netherlands. The article concludes with a summary of challenges for the future.

Definition of an LCMS
The concept of an LCMS comprises two large building blocks: Learning and Content Management. For this reason it is difficult to define the concept of LCMS as a whole. However, in order to give an adequate description of what an LCMS is, a further examination of the two building blocks is necessary.

Content Management is an important part of any LCMS. This represents the software, which is needed for authoring, storage, use, reuse, search and management of content. Content in this case is defined as all materials needed to create learning experiences, such as:
• Learning Objects (articles, questionnaires, books etc.)
• Units of Learning (courses, modules, tasks etc.)
• Assets (e.g. pictures, video, audio, simulations)

These materials are developed within an authoring environment and are stored in a repository, in which authors can search for, use and reuse all the developed materials. A content management system therefore consists of an authoring environment and a repository.

The other aspect of an LCMS, apart from content management, is that of learning. All the material developed in the content management system needs to be delivered to users, enabling learning to take place. Users in this case are defined as the learners and staff, both of whom play a role in the designed learning experiences. Since the content management component of an LCMS is concerned only with the creation and storage of content, another system is needed for delivering materials to learners. Virtual Learning Environments (VLEs) such as Blackboard, WebCT, N@tschool answer this need. An added possibility for the future is delivery of materials to print, or even PDAs. Summing up, the process of learning is positioned outside content management, taking place in another kind of environment altogether.

Figure 2 is an illustration of an LCMS, giving a perspective on the two building blocks Learning and Content Management.

An LCMS can provisionally be defined in terms of the functionalities of its two component building blocks: it is software that creates, stores and delivers learning experiences to users.

LCMS: hype or necessity?
The advent of new technologies is usually accompanied by hype. Learning Content Management Systems are, as we all know, the current rage in the Netherlands. In the “Hype Cycle for Emerging Technologies”, illustrated in...
figure 3, the Gartner Group throws interesting light on hypes surrounding new technologies.

Figure 3: Gartner’s “Hype Cycle for Emerging Technologies”

The first phase of hype is over-enthusiasm. Such over-enthusiasm led to the introduction of many off-the-shelf VLEs between 1995 and 2000. These VLEs provided the first possibilities for flexible deliverable of content through the Internet. Institutions of higher education were the first to implement VLEs, which were marketed by a variety of suppliers.

The years 2000-2002 were turbulent for VLEs, marked by a ruthless shakeout of available products. Only the strongest survived. Almost every institution of higher education purchased or developed their own VLEs, at the same time developing a great deal of content for them. The management of content, interoperability and standards for VLEs became important issues during this period. Such issues were not adequately addressed by VLEs supplied commercially, a fact that ultimately led to disillusionment with them.

It was this disillusionment that led to the current hype surrounding LCMS. The concept of LCMS was first introduced in 2003 to boost the market for and help solve the problems with VLEs. Clearly, LCMS fill a need, particularly with regard to the functionality of content authoring and management.

LCMS use in the Netherlands

It is the functionalities offered by LCMS that led to its introduction in Dutch higher education. The Dutch Digital University (DU1), a consortium of ten Dutch universities that focus on the development and application of digital educational products and knowledge for higher education, implemented a pilot scheme to test LCMS.

Since LCMS support development of content creation and delivery, the DU wanted to investigate whether LCMS permit content development and delivery on a larger scale. This pilot scheme attempted to answer the following questions:

- What are the technical possibilities offered by LCMS?
- How can an LCMS communicate with VLEs such as Blackboard and N@tschool?
- Which system, LearneXact or HIVE (Harvest Road), is best suited to the DU?

The DU chose LearneXact for its LCMS, and a project team is now implementing it.

In addition to initiatives currently underway at the DU, other universities such as the University of Groningen are developing and implementing their own LCMS solutions. Other projects in the Netherlands are focusing on the development of learning technology specifications (standards). Such standards make it possible to reuse and exchange content between different LCMS, meaning they are highly important if universities truly wish to collaborate with each other. An example of one such standard is the IMS Learning Design Specification2, developed by the Open University of the Netherlands. This specification enables learning experiences to be developed based upon any pedagogy an institution wishes to employ, and to use and reuse them through various LCMS.

Challenges for the future

LCMS pose several challenges for the future. A comparatively recent phenomenon, LCMS have created solutions to numerous problems surrounding the use of VLEs. With the rise of new technology, however, new opportunities are born. LCMS make it possible for institutions of higher education to develop, store and deliver learning experiences, in their own institutions as well as between institutions, enabling content developed in one institution to be used in another. Thus the delivery software (usually a VLE), must allow for content developed for one VLE to be handled by another VLE as well. Interoperability, the ability to use and reuse content from different institutions in different LCMS, is a pressing issue.

Learning technology specifications (standards) play an important role in dealing with this issue. Learning technology specifications are developed to support interoperability between LCMS. Examples of such specifications are the IMS Metadata specification3, enabling users to search through LCMS, IMS Content...
Packaging specification⁴, making it possible to import content into LCMS, and the IMS Learning Design specification, for developing units of learning. These specifications mean that content can be used and reused flexibly across various different LCMS. LCMS must implement these learning technology specifications if institutions of higher education are truly motivated to use, reuse, and share content with other institutions. However, most LCMS available on the market lack these specifications, or they only include them partially. This means that true interoperability has not yet been achieved, obstructing collaboration between institutions’ LCMS. The obvious solution would be for vendors of LCMS to adopt these learning technology specifications in full. Only then would interoperability be realised and LCMS be given a future in higher education.

Meeting this challenge would avert disillusionment with LCMS and support for the technology would survive the present hype.

References
1)  http://www.digiuni.nl
2)  http://www.imsglobal.org/learningdesign/index.cfm
3)  http://www.imsglobal.org/metadata/index.cfm
4)  http://www.imsglobal.org/content/packaging/index.cfm
Descriptions of trends

Introduction
An important criterion to be borne in mind in compiling a list of trends noted during a conference is of course the amount of available, relevant information. Put another way, which subjects surfaced again and again during the pre-conferences and sessions, and which were given frequent consideration in the reports by participants?

This was also the guiding principle in compiling the following list of trends at Online Educa Berlin 2003:
- Mobile and wireless learning
- Game-based learning
- Integration of e-Learning systems
- Quality assurance and e-Learning
- Digital Campus
- Blended Learning
- ICT and policy

3.1 Mobile and Wireless Learning

Introduction
Today’s youth, our future students, live in a network society. With the growing number of broadband Internet connections in the Netherlands, young people’s access to the Internet has expanded enormously. And, given the ease with which SMS messages can be sent, mobile telephony has also taken off dramatically. Falling prices have made it possible to install wireless networks for domestic use which, combined with a fixed Internet connection, are attracting increasing interest. These developments are making it easier and easier for students to use reasonably advanced mobile and wireless technology, and they are doing so more and more as a matter of course.

Possible uses
A number of speakers at Online Educa Berlin 2003 examined the differences between the available mobile technologies from the point of view of the user. Mobile technology has a number of distinguishing characteristics. One is that it enables users to remain in continuous contact with others, regardless of location. Other equipment works on the principle that people carry information around offline and make contact from time to time in order to process it. A second distinguishing characteristic is the size of the device concerned. Is it something one can carry ‘on’ one, such as a mobile telephone or a (compact) PDA, or is it bigger, such as a laptop, meaning one must carry it ‘with’ one. Another is the duration of use. This can be brief, when sending an SMS message from a mobile telephone, but also more extended, when using a laptop for the purpose of processing a document. Yet another is the applications that are available on a particular device. The small display screens of mobile telephones and PDAs, for instance, are not really suited to video images and multimedia applications, but rather lend themselves better to performing simple textual tasks.

Most important is the mix of desired functionalities and possibilities, not the issue which technology is better or worse. None of the speakers seemed to be in search of the one ultimate device. Other technical issues, such as infrastructure, security and costs were not dealt with in any great detail.

The speakers drew attention to the following possibilities inherent in mobile and wireless learning:

Filling downtime
One significant advantage of mobile learning is that it enables users to fill downtime (lost time). Examples of downtime include waiting in an airport departure lounge or sitting on a bus or train to and from work. Lesson material must then be broken down into segments that take no more than 10 minutes to complete.

Notification possibilities
Mobile learning also offers the possibility of receiving messages in the event of important changes to a student’s learning environment. The user enters the events about which he would like to be kept informed. These may include reactions to a question he may have placed on a discussion forum online, or teacher assessments of recent tests.
Urgent peer assistance
Mobile learning also makes two-way traffic possible. This includes of course sending and receiving SMS messages, while PDAs also enable people to chat real-time. The important thing is that information is made available about the various areas of people’s expertise and that the best possible contact details are supplied.

Conclusions
Developers and suppliers of mobile and wireless learning technology are optimistic about the future. They feel bolstered by current developments, such as the increasing number of people who own a mobile telephone or laptop. They also emphasise the benefits of being able to offer lesson material and functionalities on several platforms. Without pausing to examine the technical challenges involved, it is clear, however, that material that can actually be used problem-free on various types of equipment must be broken down into modest segments. It seems that the task of providing didactically sound, independently usable education in such a way is no simple matter.

3.2 Game-based learning

Introduction
A brief summary of the presentations on game-based learning during Online Educa Berlin 2003 reveals that this too is a topic to which various definitions and principles apply. Game-based learning is a concept that includes case-based learning, simulations and role-play. This created a degree of confusion in delegates’ minds as to which sessions to attend. Preconceptions about the content of sessions on game-based learning sometimes led people to expect that such sessions were actually about something else entirely.

Forms
In actual fact, the concept of game-based learning is not particularly difficult to understand. Table 4 shows that the subject is often poised between regular learning (environments) and regular games. The various forms of game-based learning differ in part, but some components do have common characteristics. This report uses the term game-based learning unless its specific form or appearance means that an explicit distinction is required.
**Boost to motivation**

An important reason to apply game-based learning is that, compared with traditional styles of education, it boosts the motivation of students in a number of ways.

**Inquisitiveness**

Game-based learning makes it possible to assume a role that differs from the reality of daily life, e.g. managing director, mayor, commanding officer, pilot etc. These are roles that frequently remain restricted to fiction, but which the person playing them out perhaps fantasises about.

**Tension and relaxation**

The element of play inherent in game-based learning has on the one hand a relaxing effect while on the other adds the element of competition to the learning process. This can act as an extra stimulus to perform well. The effect is emphasised by tasks such as solving riddles or packaging learning activities in the form of a journey or adventure.

**Enjoyment**

The correct use of illustrations, characters and situations can make game-based learning highly appealing and enjoyable, certainly when one compares it with the rather boring lesson materials sometimes used in higher education.

**Cause and effect**

Interaction is created between learner and system. The actions of the learner have direct consequences. Feedback is immediate, confronting the learner with the consequences of his decisions.

**Social and group aspects**

Students can compare their results, or those of others, thus gaining a sense of their position compared to others.

It is clear that much depends on the proper execution and implementation of the concept. Poor graphics, bad design or limited game-play can destroy the benefits and positive effects of game-based learning. A problem is that development is costly, meaning it is not simple to implement game-based learning cost-efficiently. In addition, to take the example of corporate training programmes, the culture of the company in question or the prevailing opinion that learning is a serious matter and that playing games during working hours is not done, can aggravate the problem of justifying the costs involved. Where possible, relatively simple applications regarding the substance, construction, interface etc. are necessary. This enables the specific requirements of various target groups to be assimilated, while the actual structure and construction can be reused for future games.

Results must be exchangeable in order to allow game-based learners to compare their results with those of others. Given the existence of privacy legislation, it is not always be desirable or even permissible to display additional information about learners. Links to other (e-Learning) systems are necessary in order to store the results in the learner’s portfolio.

**Conclusions**

The number of presentations at Online Educa Berlin 2003 on game-based learning made it clear that work on the concept is widespread. Notable here, however, is the apparently recurring reinvention of the wheel, as it were, particularly with regard to the technology used. To say the least, rather inefficient use is being made of the available knowledge, expertise and resources. This evokes a comparison with the early days of the electronic learning environment, when every progressive educational institution built its own requisite applications.

The following reaction from one of the Dutch participants at Online Educa Berlin 2003 underlines the need for a number of improvements:

“I had high expectations of the games to be presented at this conference. Once again I was disappointed. As soon as people get enthusiastic about games and the game industry, they arouse expectations about the kind of interaction, graphics, storylines etc. such games are able to provide. Ultimately, however, educational games are always simulations or role-plays, lacking in any of the features that addict children to even the most hideous racing games. How is it that children resist doing 15 sums of a similar type in order to master the principles of arithmetic, but are all too keen to perfect a circuit or better their record by 100th of a second by racing around it 1500 times in about one and a half minutes? Both actions are repetitive, but the one is considered terribly exciting while the other is seen as boring. They have to do the one, whereas they are allowed to do the other as a reward for doing the one they are compelled to do. Once we
educationalists really understand what makes a game exciting and actually implement it in education, we will have made a huge leap forward. Until then we should call educational games what they are, i.e. role-plays. This sounds a lot less exciting and a good deal more like education.”

3.3 Integration of e-Learning systems

Introduction
Alongside the increasing importance of e-Learning in educational institutions is a growing need for an integrated approach to the issue. See for example the paragraph on Quality Assurance and e-Learning. Two aspects, specifically the integrated development of electronic educational materials and the integration of e-Learning systems, are examined here in further detail.

Design and development of electronic educational materials
It frequently occurs that when using e-Learning systems for the first time, enthusiastic teachers themselves develop the requisite educational materials. Just as they used to compile readers and study manuals for courses, they now take on single-handed the HTML editor, graphics programme and even sometimes advanced applications for making animations, simulations and demonstrations. Here, considerations of quality control and reuse are subordinate: after all, teachers develop such educational material for their own use. However, as soon as they reuse material from another educational institution or material that has been published, or if the number of students involved increases, the necessity arises for a structured, systematic approach to the subject and to the development of electronic educational, materials.

With regard to the above, reuse does not simply mean blindly adopting entire chunks of educational material. It is also frequently helpful to make educational structures or interface components reusable. At Online Educa Berlin 2003, Alessandra Marinetti of DigitalThink illustrated a number of examples of reuse in which a common navigation structure and educational concept lend themselves quite easily to use with various kinds of lesson material. Since the colour, icons and illustrations of the interface were also easily adaptable, such lesson material was able to take on its own look and feel. This kind of reuse re-emphasises the necessity for an integrated approach to the design and development of electronic educational materials.

Integration of the technical infrastructure
The consequences of lack of structure or planning in developing educational materials apply equally to technical infrastructure. With a small number of users it is possible to set up and maintain a simple server. If there is no functionality available, an institution can add it itself or purchase a separate application. This, however, is no longer possible if the number of users increases and the applications used thereby become more important. More professional management is necessary and, with increasing investments, individual segments of the educational institution in question can no longer take ad-hoc decisions.

Requirements such as 24 x 7 availability of applications as well as the corresponding helpdesk, single log-on for users to all components of e-Learning environments, or the availability of e-Learning environment to all students in an educational institution, mean that consideration must be given to a systematic approach, policy formulation at the level of the Board of Governors, and adequate support.

Conclusions
With the coming of age of e-Learning in the education sector, the need arises for a systematic approach to the design and development of electronic educational materials and a planned approach to the requisite infrastructure.

3.4 Quality Assurance and e-Learning

Maria Gulmans
Saxion Universities of Professional Education

Introduction
In the Netherlands, quality assurance in relation to e-Learning is a topic that continues to attract great attention. Following the preliminary phase in the implementation of e-Learning, it is only logical that it too should be connected to the existing quality assurance systems.

Establishing a European approach to quality assurance in relation to e-Learning is no simple task. Specific local requirements and methods may differ according to level, context, target group, technologies used, or the education sector for which the materials have been developed. A number of relevant projects set up by the European Union were examined at Online Educa Berlin 2003.
European Quality Observatory

Online Educa Berlin 2003 saw the official opening of the EQO (European Quality Observatory). Its aim is to develop a metadata model for analysing and describing and subsequently comparing various approaches to quality safeguards. The intention is that the EQO Metadata Model should form the basis for exchanging ideas and experiences. With the aid of a search engine on the Internet, users will be able to find quality models and quality criteria to suit their own purposes as well as share experiences.
Website: http://www.eqo.info

Sustainable Environment for the Evaluation of Quality in e-Learning

The SEEQUEL Project (Sustainable Environment for the Evaluation of Quality in e-Learning) is a joint initiative between on the one hand companies that supply e-Learning applications and on the other users and organisations in the education sector. The European e-Learning Quality Forum has been established in order to secure co-operation on quality. Bringing together all stakeholders, from policy makers through practitioners in the e-Learning industry to university and training institutions, it is a discussion environment on the Web. Aside from offering possibilities for discussion and the exchange of ideas, the Forum can be used to post research results, models and links on e-Learning quality.
Website: http://cedefop.communityzero.com/elearning_forum

QUAL-Elearning

The intention underlying the third initiative, the QUAL-Elearning Project (The Quality of e-Learning: evaluation of training effectiveness and impact measures), is to produce a manual of best practices. Much work is required before this can be realised. Criteria must be defined in order to determine which courses/training programmes will be involved in the research required. Partners to the project will itemise best practices by analysing at least six hundred questionnaires and interviewing twenty prominent parties concerned.
Website: http://www.qual-elearning.net

Supporting excellence in e-Learning

The SEEL project (Supporting excellence in e-Learning) offers support primarily to policy makers at local and regional levels in seven European countries. The project is intended to provide an answer to the growing awareness that learning in a knowledge economy and society demands new skills, a new vision and new models that are different from traditional ones and which are developed with a view to an industrial society. A key activity of the project is gathering information in order to carry out benchmarking exercises that lead to the identification of good practices. Consideration will be given to differences in language and culture. A model will be developed that deals with all quality aspects of e-Learning, from technical to pedagogical matters.
Website: http://www.seelnet.org/seel/Project/default.htm

Conclusions

One significant observation is that the Netherlands is not represented in any single one of the four projects referred to above. These projects are important in the European context, a good deal of money is involved, and it is to say the least important that developments should be monitored. Links with these projects would also be advisable. The systems described above cannot be put to use without modification (i.e. they are context-bound), nor is it necessary to start from scratch when establishing quality assurance for e-Learning. The recommendation is therefore to use what is generically usable and to adapt the system to accommodate any differences encountered.

3.5 Digital Campus

Hans Ogg
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Introduction

The concept of Digital Campus comes up again and again at conferences. At Online Educa Berlin, Bill Seretta devoted a half-day session to the subject at a pre-conference workshop. Seretta is Managing Director of LearningNetworks (http://www.learningnetworks.com), a company that specialises in building such campuses.

What is a Digital Campus?

A Digital Campus can be defined as “an integrated bundle of services, capabilities & practices that enable the various ‘customers’ of a university to electronically and seamlessly conduct transitions, acquire and provide content, and communicate with each other”. Examples illustrated in Seretta’s presentation and on the LearningNetworks show that such a campus is the final result of a radical and integrated re-design of an existing
campus. There is much to recommend it, since such an approach leaves no room for half-baked solutions in which the old and the new continue to exist side by side. Apart from creating frequent confusion, such a solution is not particularly efficient. At the same time, revolutions of this nature clash with the necessity to take proper care of the current process: after all, renovations must not be allowed to interrupt business. Thus Seretta’s description of what a good Digital Campus should be was perhaps rather absolute. Nevertheless, many of his observations are relevant to the Dutch practice of gradually rigging up and extending intranets and web portals. Seretta emphasised the necessity of trying to integrate systems from the outset, and not simply setting up a Virtual Classroom.

Let us for a moment examine a typical situation in a Dutch institution of higher education. We see various technologies used for this institution’s component operating processes: some systems are intended primarily to provide support to administrative processes, such as registration, staff information and financial dealings, while others make it possible to introduce forms of distance learning, or to integrate technology into the educational process, e.g. in conveying content or for interacting with the student. There are also systems that enable students to design their own learning processes, such as in the context of collaborative learning. There are systems for the library and others for retrieving information. Such systems are frequently independent and are barely or not at all integrated, either at the data or process levels. This gives rise to three problems:
- Poor efficiency: one example is the necessity of entering the same information in various systems.
- It hinders the integration of technology in the learning and educational process.
- Not enough is being done to meet increased expectations of access to various systems on the part of learners enrolled on individualized study programmes.

A focal issue of the presentation was the notion that the primary characteristic of virtual learning is the fact that it takes place in a network of connections, contacts and communication without there being a clear centre to that network. The principal factor in such a learning process is that of the Learning Community. For the student, the Community itself is the centre. To design and manage such a community, other rules apply which, given the openness and changing character of a community of this sort, are frequently rather more psychological and social in nature compared with the rather more normative rules that apply to old learning communities.

Figure 5: Traditional structure

Figure 6: Digital Campus

Structure of a Digital Campus
The traditional structure of a campus has four distinct components (see illustration): the campus itself (the buildings), the administration, the ‘lessons aspect’ and the functions associated with admissions and marketing. A possible fifth component is one connected with information storage (‘library’), which in modern educational institutions will occupy an increasingly focal position.

Seretta claims that in converting the one campus system to the other, most consideration is given to the Virtual
Campus and Classroom, while the less ‘fun’ aspects, in particular the Database Management System (DBMS), require most attention. If the DBMS, or “keeper of the truth” as he calls it, does not function properly, the other components will also function below standard.

The Digital Campus also comprises four components:
- Database Management System (DBMS)
- Website
- Virtual Campus
- Virtual Classroom

A short explanation of these components follows.

Database Management System (DBMS)
The DBMS is made up of a number of individual, mutually connected databases for payment systems, student records and course records. One component is the portfolios, which Seretta regards as a repository filled by both students and staff, and which are therefore characterised by double ownership. This is seen as an example illustrating the statement that a virtual campus needs other, not yet existent rules that proceed from the fact that student and teacher are in a shared process and form part of the same community. The website’s website is that part of the campus directed towards external members. The website’s functions concern marketing and recruitment, supply of information to the outside world, and alumni relations. The comprehensive example he illustrated (see www.antiochne.edu) showed that it can also contain descriptions of graduates for employers in relation to job applications, and a sort of subscription service for certain news categories. Notable was the lack of a system manager whose task it is to post messages. Instead, this function was arranged in a decentralised way. A focal idea in the design of the website is the need to identify with persons not yet part of the community, thereby keeping clearly in mind that the site often plays a crucial part in a target group’s assessment of one’s institution. If the site does not look good, it says something about one’s total performance. One interesting side issue that has come up recently in the United States is the extent to which a site, with its announcements and descriptions, may be considered a legal document similar to a printed document. After all, it is staff members that post announcements, and for these an institution is legally responsible whatever the case.

Virtual Campus
The Virtual Campus makes communication and cooperation possible and takes care of workflow and information processing. Typical components are e-mail, schedule and address book facilities, bookkeeping functionalities, course registrations, access to the database, bulletin board aspects and all manner of other services. These services are of particularly importance to students not bound to the campus, and the very presence of such services draws students to use this system rather than their own channels. The entire set-up must be as Amazon-like as possible: current behaviour and preferences shape what is offered to members.

Virtual Classroom
The Virtual Classroom as sketched by Seretta is, in contrast to the Virtual Campus, primarily the domain of staff. It is the space that contains the tools necessary for such aspects as making courses, using all types of media, managing courses, and constructing tests.

Do’s and don’ts
During the presentation a number of do’s and don’ts came up regarding the implementation of a digital campus. One should, for instance, avoid settling on a technology before completing the planning (both in terms of content and logistics). There must also be a proper balance between me and us, i.e. between the necessity of working in a personalised manner and seeing to it that the site as a whole underlines the feeling of belonging to a community that extends further than the cohort or learning group to which a student belongs. Therefore it is also necessary that all communications should function at all levels, and not simply at the inter-student level. Although the look and feel of the whole is often considered less important at the developmental stage, possibly because it is so difficult to specify, users nevertheless consider it highly important.

Conclusions
Striking in the description given above is that, particularly in the third and fourth components of the digital campus, the worlds of the teacher (faculty) and student are still seen as entirely separate: it is the teacher who creates the education and the student who consumes it, even though it is better tailored to his needs than it used to be and furthermore is given in an integrated environment. Nevertheless, the old structures
still remain mostly intact. Considered in the light of the Dutch situation, in which the attempt is often made to create a situation in which learning, working and knowledge are generated in a community setting in which boundaries between teacher and student are blurred, the question is whether such a digital campus structure is really so desirable. In such a setting, the openness of communications and the network-like character of the entire educational community apparently contain the classical boundaries we have known for so long.

References

1) See also www.mivu.org/Teaching/edutechreport/ed_tech_07-07.htm: Moul, B. Creating a Unified Digital Campus to Satisfy the Needs of 21st Century Learners


3.6 Blended learning

Introduction

It is no longer possible to imagine higher education without ICT. Electronic learning environments have been installed in many institutions and, in many cases, have been truly institutionalised. Subjects such as digital portfolio, LCMS, mobile and wireless learning are gaining ground and terms such as virtual classroom, synchronous communication and on-line tutoring have for many in higher education become as common as the terms tutorial, reader and lecture. Many people wonder, however, how to integrate such new technologies into the educational process, and how to utilise ICT creatively in introducing educational innovations. There is an observable tendency from the development of new educational technologies towards changing the content of the educational process (i.e. educational innovation).

Blended learning

Many presentations at Online Educa Berlin 2003 also stressed the importance of not placing too much stress on the ‘e’ in e-Learning, but that learning itself should be emphasised rather than electronic learning. One should let go of the ‘e’: learning is and will always remain learning. There is a growing awareness that at issue is a combination of learning forms and styles: the concept of blended learning is growing. This applies not only to distance education but to traditional education as well. Both have seen a noticeable increase in blended models of learning in which e-Learning plays a part without actually taking over entirely.

Stephen Boddy & Karen Cree of the Police Service of Northern Ireland, UK (2003), dealt with one particular blended learning model. Their blend is based on a number of components that together make up the KUSAB model. The components in question are:

K - knowledge
U - understanding
S - skill
A - attitude
B - behaviour

Experience with this model shows that the K (knowledge) and U (understanding) components can be conveyed excellently through e-Learning. The other three components, however, (skills, attitude and behaviour) are better dealt with in a face-to-face setting.
Teaching
The trend towards blended models of learning also influences teaching itself. One might expect that with the increasing use of blended educational forms, teachers might also employ a certain mix in their methods of teaching. At the conference, however, numerous examples about teaching and e-Learning referred to instances in which teachers still control both process and content. That this is a normal situation not only in higher education but also in business and industry was made clear in the presentation given by John Stephenson (2003).

Using the ‘Online Pedagogy Paradigm Grid’ as a point of departure (see figure below), a research was conducted in which e-Learning was implemented in 100 different cases. The Pedagogy Paradigm Grid contains two axes: the first, the ‘Controlled Content and Tasks’ axis, indicates to what extent the teacher or student controls the learning process. The second, the ‘Controlled Process’ axis, shows to what extent a teacher determines the task to be performed, or whether the student himself may decide what should be learned (open-ended, strategic learner directed). This creates four quadrants, named after the points of the compass.

![The Pedagogy Paradigm Grid]

*Figure 7: Source: Coomey (2001)*

According to one of the Dutch delegates the most notable outcome of the research was that “most implementations in Small and Medium Sized Enterprises were plotted in the north-west quadrant (whereby the teacher determined both process and content) while one would rather expect them to fall in the south-east quadrant, given the possibilities created by e-Learning. It turned out that e-Learning was implemented in a primarily substitutional manner, due to conservative attitudes of teachers concerned, lack of communication and understanding, and because of a general lack of knowledge about effective e-Learning scenarios. Moreover, little or no consideration was given to previous research into people’s learning methods in the workplace”.

The above is not always true, however, a fact that was made clear by the presentation of the Finnish NET project by Aro (2003). It dealt with the development of an innovative educational method, taking into account the interaction between teachers, students and researchers. The aim of the NET project is to make available innovative educational methods for higher education in remote provinces. Participating in it are 160 employees of the University of Lapland and the Rovaniemi and Kemi-Tornio Institutes of Technology.

The project’s primary aims are:
- to support the professional development of education and education-supporting centres
- to develop digital lesson material, digital educational methods and digital supporting services
- to promote and expand co-operation between institutions of higher education.

The project proceeds from action theories (including those of Vygotsky). The structure and content of the courses offered are designed such that students learn by developing web-based education themselves. Important concepts in this connection are autonomous constructivism, joint knowledge-development and skills education (information skills, time management, co-operation). The course comprises a mix of contact moments, video conferencing and co-operative learning, thereby employing interactive tools and lesson materials. The students are given both technical (helpdesk) and teacher support. The latter involves external workshops (tutorials given by various experts in a number of educational fields and in multimedia use). The programme has run three times over the last three years. Both teachers and students are highly enthusiastic about the innovative, action-theory-based approach, the efficiency of the corresponding learning process, and communication between teachers and researchers.
Conclusions
One can conclude that although blended learning is offered with increasing frequency, teachers – in both business and industry and higher education – still often cling to traditional styles of teaching, which are primarily focused on substitution and poorly geared to the client, i.e. the student.

3.7 ICT and policy

Introduction
Both at the national and international levels there appears to be increasing focus on more policy directed and supported implementation of technological and technology-linked innovations. The general picture that emerged from the presentations in the conference track ‘Managing Change in Higher Education’ was that, despite all the hypes, e-Learning is still not structurally embedded in education. The major reasons put forward are that the benefits of e-Learning are difficult to communicate, many initiatives are still taking place within the context of projects, the attainments of these projects disappear as soon as the projects are brought to an end, and that policy and strategy are insufficiently clear. Particular attention was drawn to the last of these factors in the ‘How to develop and implement ICT policy’ presentations.

Various presentations at OEB 2003 dealt with the development and implementation of an ICT policy plan, with corresponding phases as well as success and failure factors.

Phases
Schönwald (2003) divides the policy process into four phases:
• set the strategic target
• need analysis
• plan and design
• implement and improve.

It is frequently claimed that the first phase, ‘set the strategic target’, is only effective if initiated by the organisation’s upper management. One may reasonably expect of upper management that it has an idea of the role that e-Learning should play in the organisation’s future. This involves not only seeing to it that pedagogical, economic and organisational changes are made comprehensible, but also having the vision to tap new target groups (such as lifelong learners and international students) and develop a suitable educational approach to such groups along with the appropriate use of technology.

Crucial is that the role of e-Learning as sketched above must connect to the specific needs of the organisation. These needs must be defined in the second and third phases. A research by Seufert and Euler (2003) identified five dimensions that can be used for defining the needs of the organisation.

They are:
• Organisation: infrastructure, quality assurance, effectiveness, size
• Technology: hardware, software
• Culture: change philosophy, views on education, bureaucracy
• Strategy and management: mission, policy, networking
• Learning and teaching: use of new media, use of activating work forms.

Figure 8: Adapted from: Schönwald (2003)

Success and failure factors
A number of success and failure factors (some of them obvious) were highlighted at the various sessions on ICT policy.

A crucial factor in the success of the approach to ICT is that key figures in the organisation provide sufficient support, and that they are involved in the entire process. A nice example illustrating this came from an entirely different theme of the conference, a session on ‘E-democracy’. The following quote is derived from one of the Dutch delegates: “What place does a session on
E-democracy have at the conference on e-Learning? What do the two have in common? The central issue is that of involving people: in politics, in education. Both are topics that touch directly on people’s lives. The following example makes this clear: a municipal councillor tried to make contact with a group of youths who were riding their scooters in ways that caused harassment and annoyance. She invited them to the town hall for coffee and biscuits. However, not one of them appeared. She decided to use the youth medium and opened a website that enabled her to have discussions with young people. No one from her envisaged target group visited the site. It proved a lonely experience for her. She finally saw the light and decided to visit a website popular with the youths, chatting with them there. It paid off. She succeeded in establishing contact and after a while managed to establish some agreement.

Apart from the attention that needs to be given to involving people, another lesson can be learned from the fact that one should also be conscious of and give consideration to the expectations of players in the process. This avoids the risk of arousing exaggerated expectations in advance (so-called expectation management). Other points that emerged are that the curriculum is a good instrument for anchoring e-Learning in education and that in addition to policy, an additional budget should always be set aside for constructing or extending the infrastructure and educational applications. Furthermore the approach must be flexible enough to be able to accommodate desired changes (an iterative process), while any resistance, as well as responses to it, must be dealt with as early as possible.

Conclusion
For our conclusion on ICT and policy we would like to quote a brief but forceful summary given by Ingrid Schöneberg (2003) “e-Learning is not a self-runner. Even though the potential of e-Learning as a catalyst for teaching innovations is recognized, the current bottom-up approaches taken by many universities won’t be enough to exploit these potentials (Kerres 2002). The sustainable implementation of e-Learning requires an encompassing change process which has to consider the strategic, didactic, organisational, economic and cultural dimension within the university, otherwise e-Learning will remain a nice gimmick in the niches of the university.”

3.8 References
For this section, material was taken from the presentations as well as from the book of abstracts, the online evaluation of the trip, personal notes and from the session reports.

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- Ed Boschaart (Vrije Universiteit Amsterdam)
- Nieske Coetsier (University Medical Center UMC-St. Radboud)
- Peter Dekker (Universiteit van Amsterdam)
- Maria Gulmans (Saxion Universities of Professional Education)
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- Hans Ogg (INHOLLAND Universities of Professional Education)
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- Maarten van de Ven (Erasmus University Rotterdam)
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Special mention is due to Hans Ogg (INHOLLAND Universities of Professional Education) and Maria Gulmans (Saxion Universities of Professional Education) for their descriptions of two of the trends discerned at the conference.

This following list consists of the references made in the text.


Conclusion & Trends

Review
SURF looks back on a highly successful Dutch presence at Online Educa Berlin 2003. The number of persons attending, nearly 1500 from 68 countries, was a record. In terms of size, the Dutch delegation was second only to the German one, with over 150 delegates, over half of whom attended under the auspices of SURF. With this powerful presence, SURF envisaged a number of goals:
- a public relations initiative for Dutch institutions of higher education and the corporate sector as well as the ICT knowledge present in the Netherlands (thereby displaying products and/or debating themes)
- making contacts with European institutions of higher education and commercial enterprises
- gaining a clear idea of trends in ICT and Education.

A word on the last of these goals: the previous chapter dealt with trends in ICT and Education observed by Dutch delegates. These were mobile and wireless learning, game-based learning, integration of e-Learning systems, quality assurance and e-Learning, digital campus, blended learning and ICT and policy. At the end of this chapter these trends will be examined.

Regarding the first two goals, SURF set up the Dutch e-Learning Market, which was an ambitious exposition of the Dutch product “ICT and Education”.

Dutch e-Learning Market
At the Dutch e-Learning Market, organised in co-operation with the Netherlands Foreign Trade Agency (EVD) of the Ministry of Economic Affairs, the Netherlands Council for Trade Promotion (NCH) and the Dutch Embassy in Berlin, Dutch institutions of higher education and the corporate sector promoted their educational and ICT products. Where possible, the market’s stands were a combined effort, either a product developed jointly or a theme worked on collaboratively, by Dutch institutions of higher education and commercial enterprises. The idea was to display in the European arena as many co-operative projects as possible linking Dutch higher education and the corporate sector. Connected to this market was the opportunity for participating institutions to give demonstrations in a specially reserved space (See Appendix 2 for descriptions of the participating institutions and enterprises). The Dutch e-Learning Market received high marks from many quarters. The enterprises and educational institutions concerned attracted considerable interest. With the aid of short demonstrations and presentations and stimulated by a continuous stream of interested visitors, the first contacts in new national and international networks were established.

Apart from the aim of making national and international contacts, the Dutch e-Learning Market appeared to be the focal meeting point for Dutch delegates wishing to network. Thus it was a home-from-home for Dutch visitors to Berlin or, as some delegates themselves put it: “It is good when others substantiate what you believe and think, or express your thoughts in their words.” “Given the considerable extent of the SURF group that travelled to Berlin, this conference was a great success for me, also because the catalyst effect on the shaping of networks and ideas was enormous.” “The actual substance of the sessions was not always great, but... a trip such as this creates possibilities for coming into closer and deeper contact with colleagues.”

Pre-conference
Aside from setting up the Dutch e-Learning Market, SURF also organised a pre-conference on three topics on which much work is being done in the Netherlands. Its aim was to publicise ICT knowledge in the Netherlands. The topics were LCMS, digital portfolio and streaming media in higher education. This pre-conference was well attended, although it did not accomplish the aim of achieving a European profile for Dutch knowledge on ICT. This was because the audience was largely Dutch. The fact that OEB delegates were forced to choose from 17 pre-conferences was certainly a contributing factor. However, those who attended the SURF pre-conference made clear that they were impressed by its substance.
European Union

SURF regarded the visit to Online Educa Berlin 2003 as a good opportunity to delve deeper into the possibility of entering into co-operation at the European level and, more specifically, to enter into co-operative ventures in order to net a European project in the near future. To provide more information to Dutch institutions of higher education about existing possibilities, SURF organised a workshop entitled “Higher Education and Corporate Sector and European Projects”. This private workshop was intended for Dutch delegates only. After a short word of welcome by Sally Reynolds (Programme Manager to Online Educa Berlin 2003), the possibilities were examined for Dutch institutions of higher education and the corporate sector regarding the submission of project proposals for obtaining subsidies from the European Commission. Wim Jansen (Principal Scientific Officer, EU Commission Research Infrastructure) and Mathy Vanbuel (Evaluator of the 5th Framework Programme) outlined the possibilities for cooperation within European framework programmes. They drew particular attention to possibilities for submitting proposals for the 6th Framework Programme and the e-Learning Action Plan (i.e. subjects, instruments, partners for co-operation, procedures, etc).

SURF promised, if required, to play an active, facilitating role as intermediary between the EU and institutions in connection with a various research and innovation programmes for ICT and higher education.

International

Aside from providing support and assistance to Dutch institutions of higher education and commercial enterprises, SURF also aimed to expand existing international co-operative ventures. Two sessions in the regular OEB 2003 programme catered to this aim:
- a session in which national organisations (such as SURF and JISC) presented themselves to one another and to the public at large
- another session in which the more thematic and also membership organisations (such as ALT, EKMA/EASA and EDEN) presented themselves to one another and to the public at large.

Prior to the conference, the MMO agency (as a component of the SURF-Netherlands Foreign Trade Agency action plan for OEB 2003) attempted to establish a number of ‘matches’ between Dutch participants (businesses, organisations or persons). This resulted in a number of promising ‘leads’ for businesses and a successful encounter between SURF and NUV, the Norwegian government agency responsible for innovation in Norwegian higher education.

Furthermore, the fifteen Dutch presentations in the Online Educa Berlin 2003 programme were well attended, and the speakers were highly satisfied with the reception from their audiences.

Trends

The chapter entitled ‘Descriptions of Trends’ illustrates a number of important points.

Learning is fun
Given current technological developments, such as the increasing number of mobile telephones and the associated use of SMS, as well as the fact that we live and learn in a ‘network society’ (the Nintendo generation being the target group), it is only logical that enjoyment should be a major factor in learning. Consideration should be given to other forms of learning, including the use of wireless learning, games, chatting and simulation, all of which are suitable approaches for the target group in question. The magic word is engagement, meaning that learning material must be structured in truly new ways. This is the age-old lesson in education: connect to the experiences of the target group (students); see to it that what you want to achieve is relevant within their contexts.

e-Learning is blended learning
With increasing differentiation between target groups (regarding background, origin, forms of study), the importance of blended learning is growing. Offering a mix of work forms can create a better connection with the variety of learning forms familiar to the target groups in question. It is important to adapt this mix to the principle of ‘learning on demand’. One delegate put it as follows: “Is it not time for us to be developing learning theories based on future ICT technologies in education and the corporate sector, instead of projecting ICT-based changes already accomplished onto existing and proven learning theories?”.

Integration of systems and policy
Integration, not only of systems but also of policy and quality assurance, is an increasingly important topic.
The issue of how to implement ICT and ICT policy in institutions is growing. There is a detectable shift from implementing pilot schemes to scaling up use, with sound and serious implementation throughout entire institutions. The emphasis here is on integrating systems, such as the personal learning portal, digital portfolio, Learning Content Management Systems, Learning Support Systems and Skill Management Systems. A similar shift is taking place from partial solutions to integrated approaches, with a clear vision of architecture as a whole and a crucial role for standardisation. Important here is that an institution has a coherent vision, and that it includes attention to quality assurance.

Internationalisation/globalisation of education
Online Educa Berlin 2003 made clear that it is becoming increasingly important to internationalise education and co-operation. Visible on the one hand was growing European initiatives to introduce the Bachelor’s and Master’s structure, thus eventually enabling more and more students to complete their studies in another country. This could have a major influence on the supply of ‘tailor-made’ education, including a role for ICT. On the other hand, it is evident that the world is not static. Although presentations given by colleagues from various countries may have given Dutch delegates the impression that the wheel is sometimes being re-invented, as it were, their general impression was that they had much to learn from the international context, one in which co-operation is important for Dutch institutions of higher education. Entering into national and international co-operative ventures, particularly in the European context, is a trend that has not yet gathered much momentum in the Dutch higher education sector. The importance of internationalisation and globalisation will certainly not decline, and institutions should not fail to respond to this development, particularly at the European level. The Dutch language barrier is not really significant, either with regard to tapping into growth markets or for competing with foreign rivals.

Research and knowledge sharing
It seems in the educational arena that teachers and course managers are barely aware of modern educational implementations, while at the same time their direct educational research colleagues are already publishing their work worldwide. Apparently these researchers do not regard their colleagues as a target group or as a source of best practices. Moreover, teachers and course managers seem not to be conscious of the research being carried out in their own institutions. This is quite obviously a case of a notable mismatch in terms of the investments ploughed into educational innovations.

Finally
Although the aforementioned trends are set to continue, the delegates of Online Educa Berlin 2003 agreed upon the idea that these trends have been subject of debate for years. Despite this, no delegate would claim that the trends in question have actually been either partially or fully implemented in their own institutions. Implementation of ICT does not automatically usher in educational innovations, nor even does it result in talk about innovation. Once a vision is established and policy decisions are in place, real work is required. Furthermore, it is important to remember that putting plans into practice demands far more effort and commitment than conceiving them. We can conclude that there is still much to be done.
Appendix I: Dutch presentations at OEB 2003

A considerable number of sessions at Online Educa Berlin 2003 were presented by Dutch delegates. The following presentations are grouped according to their OEB 2003 theme.

Learning in Enterprises
• Wim Veen (Delft University of Technology) - E-Learning in the Steel Industry; an Organizational Challenge.

New Roles for Teachers and Trainers
• Hans Hardus and Matthias Mitzschke (University of Professional Education Leeuwarden) - Digital Video Cases in Teacher Training.
• Hans Ogg (INHOLLAND Universities of Professional Education) and Judith Schoonenboom (Universiteit van Amsterdam) - SALDO: Developing a Model for the Design of CSCL.
• Aletta Smits (Leiden University) - Training Teacher’s Behavior with the Help of Blackboard.
• Maarten van de Ven (Erasmus University Rotterdam) - Online Learning for Teacher Trainers.

Managing Change in Higher Education
• Nieske Coetsier (University Medical Center UMC- St. Radboud) - The Implementation of Blackboard in the Medical Curriculum of the University of Nijmegen.
• Peter Dekker (Universiteit van Amsterdam) and Ed Bosschaart (Vrije Universiteit van Amsterdam) - Stimulating Faculty Managers to Exchange Ideas about Implementation of ELearning: Don’t try this at Home!
• Henk Hindriks (Hanze University Groningen) - Successful Implementation of an University Wide Electronic Learning System.
• Piet van der Zanden (Delft University of Technology) - Implementing A Corporate ICT in Education Policy: A Two- Fold Approach Aiming at Educational Innovation and Infrastructural Sustainability.

Innovative Learning Approaches
• Simona Gaarthuis (Hogeschool van Amsterdam, University of Professional Education) - Cascade, an Example of Case Based Learning.
• Maria Gulmans and Johan Maas (Saxion Universities of Professional Education) – The Implementation of a Digital Portfolio.

Future Technologies for Learning
• Wijnand Aalderink and André Roosendaal (Windesheim University) - Davideon Project: Exploring the Active Use of Streaming Media in Higher Education.

Demonstration Session
• Margret L.G. Alers (University Medical Center UMC- St. Radboud,) - Dynamic Patient Simulation.
Appendix II: Company Profiles of Participants in Dutch e-Learning Market

INHOLLAND University as partner in de Digitale Universiteit

In de Digitale Universiteit (the Dutch Digital University) a number of Universities and Universities of Professional Education work together on innovations in the field of e-Learning. The DU-project ‘The digital teacher training course’ includes the following Dutch Universities of Professional Education: Saxion Universities of Professional Education, Fontys University of Professional Education and INHOLLAND University. These schools are working together to realize a digital teacher training course for primary education. This four-year course will be fully digital and will include a distance learning facility. The pilot course commenced in September 2002 at INHOLLAND University.

Web: www.inholland.nl

Lamark BV

Lamark provides a complete proctored test centre solution for test and exam delivery; from candidate registration to result reporting. Lamark has three distinct test and examination service solutions:

- Test delivery under professional delivery at authorized Lamark Test Centres.
- ‘In-house’ test delivery at customer site test centres.
- Internet test delivery for use at both work or home.

Lamark customers benefit directly from efficient and flexible services, even when exam candidate numbers are low. Given Lanmark’s partnership with the leading assessment software supplier Questionmark, the costs of migration to Lamark’s test platform are minimal and results are immediately available ‘on-line’.

Lamark’s flexible test services are now available to exam candidates in the Netherlands, Belgium, Germany, UK, France and Portugal. Candidates in each country can register for tests and exams in their own language.

Web: www.lamark.com
The LSOP, the Education and Knowledge Centre for the Dutch Police, provides educational services and expertise to the Dutch police forces. Each of the centre’s various institutes and centres of expertise operates in a specific domain of the police organization. The centre is thus capable of adding value in equipping the police for its essential tasks of maintaining public order and safety, providing service and investigating crime. The LSOP is firmly anchored in the police organization and cooperates with many other institutes, including the regular educational institutes. The LSOP won the National Education Innovation Award 2002.

Web: www.lsop.nl  
http://ecampus.lsop.nl

Noterik develops streaming media services for the education sector. Examples are the streaming video portal for SURFnet, a co-operative venture between Dutch educational institutions. In association with the Universiteit van Amsterdam, Amsterdam Noterik developed a specific application to record lectures and publish them synchronously with the slides shown.

Web: www.noterik.nl

NIAM-TMS provides easy-to-use solutions for managed knowledge transfer. Our flagship, EasyGenerator® Suite, is the content creation tool with a zero learning curve, and offers a maximised impact of knowledge transfer. The complete Suite offers creation, playing, tracking and managing e-Learning according to the latest industrial standards. Reasons customers have opted for NIAM-TMS are to improve sales results for new products, to comply with safety procedures, to implement Strategic Management Development and/or to reduce costs due to negligence. We optimize content, didactic value and technology in both standard and customized solutions. Our retail solution won the European Retail Solution Award 2003 for ‘Best use of technology for employee development’.

Web: www.niam-tms.com  
www.easygenerator.nl

The Open Universiteit Nederland performs a pioneering role in innovations to higher education. The Educational Technology Expertise Centre invests in research and technology development in educational technology. We examine methodologies and principles for instructional design in higher education with regard their effectiveness, efficiency and appeal, and use of cognitive and (social-) constructivist perspectives. We develop new models and learning technologies aimed at bringing about effective, efficient, attractive, flexible and accessible lifelong learning in distributed network environments. We share the results of these educational innovations with others engaged in consultancy and training.

Web: www.ou.nl/OTEC  
www.ou.nl/OTECtrainingen  
www.learningnetworks.org
Siennax

Siennax has a unique and innovative Utility Platform available to clients who on the one hand make increasing use of Internet technology for their internal, external and critical operating processes, but on the other do not wish to develop and manage the necessary infrastructure themselves. Siennax’ Utility Platform is a complete, scaleable infrastructure, accommodating other application platforms, communication & PKI facilities, online billing and payment functions, databases, storage and links to many prominent online information sources, etc.

Siennax focuses primarily on the e-Learning market, supplying products by leading technology providers as Saba, Blackboard, Natschool, QMP, Efiport and NETG.

Web: www.siennax.com

Stoas

Stoas is the Dutch market leader in the field of knowledge transfer. Stoas implements and supports IT systems in Educational Institutions as well as in national and multi-national corporations. In addition to e-Learning, e-testing and e-portfolio solutions, Stoas supplies student information systems, pedagogical consulting, and conducts research both in the Netherlands and abroad. Stoas head-office is in Wageningen, the Netherlands. Stoas delivers and implements several e-Learning systems. To optimise the use and performance of these systems, we offer a wide array of services, including software configuration, system integration, hardware installation, hosting, remote system administration, training and services.

Web: www.stoas.nl

SURF Foundation

SURF Foundation: giving shape to partnership in higher education and research

The SURF Foundation is the higher education and research partnership organisation for network services and information and communications technology (ICT). SURF’s mission is to exploit and improve a common advanced ICT infrastructure that will enable higher education institutes to better realise their own ambitions and improve the quality of learning, teaching and research.

Web: www.surf.nl

TeleTOP

TeleTOP is a young spin-off company of the University of Twente, supplying all services necessary for implementing the TeleTOP E-learning system in your organisation. Services range from training and hosting to product development and adaptations.

Development of the TeleTOP E-learning system commenced at the University of Twente in 1997. It is now used at a variety of institutions, from multinationals through secondary schools to private companies.

Web: www.teletop.nl
Three Ships enterprises is proud to present N@Tschool! – the most comprehensive e-Learning environment on the market today. It is aimed at educational institutions, organizations and enterprises.

For all your needs, such as offering on-line tests, supplying courses and projects, creating and publishing content, defining sets of competencies as a basis for study programs, setting up digital portfolios and organising on-line meetings, Threehips N@Tschool! offers everything in one.

Threehips N@Tschool! enables you to select the right combination of functionalities for your organization’s requirements. It also allows you to do this for separate units of your organisation.

Flexibility of this sort is the distinguishing hallmark of Threehips N@Tschool!

Web: www.threeships.com

The Vrije Universiteit Amsterdam was founded in 1880, by Abraham Kuyper. Today the VU is a rapidly growing university with more than 16,000 students and a 2,500-strong academic staff. The core activities of the VU are research and education. Its research incorporates all the leading scientific disciplines, from information sciences to psychology and from medicine to economics. Prominent research is carried out in cancer research, molecular genetics, child psychology, marine geology, regional economics, ergonomics and ecology. As the VU has a strong sense of social responsibility, it particularly encourages certain fields of research, such as ethics, the environment, ethnic studies, minority group issues and the problems of old age. Medical research is carried out in close collaboration with the VU Medical Centre, the teaching hospital of the Vrije Universiteit. The VU’s extensive programme of international development cooperation has gradually become one of the focal points of research.

Web: www.onderwijscentrum.vu.nl
Wageningen University and Research Center

Wageningen University and Research Centre (Wageningen UR for short) is a leading international knowledge institute in the fields of nutrition and health, sustainable agricultural systems, environmental quality and processes of social change. Our path-breaking research and innovative education form a vital contribution to the quality of life.

Wageningen UR is known for its critical, enterprising and internationally oriented researchers and students. They are capable of bringing together knowledge from a wide variety of disciplines in order to develop a comprehensive view of public issues and to understand the implications of these for human life, animal life, plant life and the environment. Our knowledge institute comprises Wageningen University, (applied) research institutes, and a training and advisory centre. In January 2004, the college of higher education Van Hall Larenstein became part of Wageningen UR. Wageningen UR has 7,400 employees and over 8,500 students. The research institutes conduct strategic, applied and practical research for businesses, governments and stakeholder groups. The university’s chief strength lies in its fundamental and strategic research. It also produces graduates that are employable in a broad range of fields.

The research institutes and university collaborate closely in five areas of expertise: Agrotechnology & Food, Animal, Environmental, Plant and Social Sciences. Current important research themes include food safety and the green environment.

Web: www.wur.nl

Webflex B.V.

Webflex BV, the Netherlands, provides consulting- and managed services on Internet Services Deployment Platforms (ISDP’s). The ISDP is the technical foundation for companies and organisations that make strategic use of Internet Technology for deploying mission critical services to various user communities in their periphery. This concept is centred around ‘student portals’ and Identity Management. Webflex has considerable experience in building ‘Enterprise Portals’ for Educational Institutes like the Universiteit van Amsterdam, Utrecht University and Erasmus University Rotterdam. This provides a basis for personalised services to students, teachers and alumni for their own personal e-Learning environment, including entrance to ELO solutions like Blackboard, WebCT, mail, calendar, and a digital portfolio provided through an Internet browser.

Web: www.webflex.nl