

# MENU: Model for a European Networked University for e-learning

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**Abstract** — *In this paper we present the MENU project. The major goal for the MENU project is to create a model for a European Networked (Virtual) University, offering a variety of e-learning opportunities. 11 partners in 7 European countries are joining forces to establish the model, based on experiences from previous, national and international, projects and activities at the partner institutions. The model will propose an organisational structure, a quality assurance system, examples of joint courses and study programmes across institutional and national borders. A demonstrator will show practical e-learning environments, applied to ICT-related studies. Partners in MENU will constitute the core of a future consortium, a permanent, sustainable ENU, offering courses and degree programmes across Europe. ICT will be extensively applied for administration, contact and information, learning environment and virtual mobility of students and staff. Dissemination of findings will make the model and the consortium available to other institutions. MENU is coordinated from Norway, lead by Stord/ Haugesund University College. Most of the partners have long experience from net based learning activities at university level, as well as from national and international collaboration. Some of the partners represent already existing networks of academic institutions, e.g. The Finnish Virtual University (FVU, 21 member institutions) and the Norwegian NetWorkUniversity (NVU, 9 institutions). The intention now is to combine and expand such networks into a European dimension, demonstrating its functionality for practical e-learning*

**Index Terms** — *Online Degree Programs, Collaboration, e-learning, web platforms.*

## BACKGROUND

The partners in MENU like to think of themselves as innovative and open for visions into new systems for higher education, where technology may play a central role. Some of the visions have been tested in previous projects, with more or less success. The experiences are nevertheless a good starting point for a joint effort, where e-learning is the major focus.

The concentration of intellectual resources at separate university campuses is probably no longer a competitive advantage in itself. Global networks and e-learning may indicate a paradigm shift in higher education. Institutions have to rethink their methods, pedagogy and organisation. A central - but difficult - issue is the openness and ability to take advantage of collaboration, through networks and across borders, with exchange of knowledge, expertise, material and study programmes.

### The European situation

Europe has a clear handicap compared to some other parts of the world when it comes to close collaboration and exchanges of academic products. Despite efforts by the European Union, obstacles like many different, national languages and traditions, strict regulations and complex routines for exchange of academic credits and grades between institutions are serious challenges to joint international projects. Although certain routines have been developed for traditional on-campus studies and well documented exams, net based and on-line studies are still very suspicious.

E-learning is still rather scary and often regarded as second class in well established, academic environments. Can we be sure that an e-learning course of 10 credits provides the equivalent professional knowledge and standards as a similar, traditional on-campus course? Besides, the course may have its basis in different academic tradition, with a different degree system, explained in a strange language and so on. Scepticism is hard to overcome.

Further more; the production of net-based learning material is rather time and resource consuming. Can our institution afford the extra efforts required to produce high quality courses? Are we willing to offer - or accept - courses and material in other languages than our national one?

The intention of MENU is to demonstrate that much effort can be saved by close collaboration between institutions and staff members with common interests. Some of the earlier projects have shown rather promising results here, proving that it is really possible to collaborate for separate courses. Systematic networking within groups of institutions with common goals has been tested out with clear signs of success, both nationally and across national borders. But it requires institutional and individual commitment to sharing and collaboration in order to make this part successful for a full study programme.

### **Projects funded by the European Union (EU)**

The DELTA programme (1988-94) funded several larger projects, among them JITOL - Just In Time Open Learning (1992-94). 12 partners challenged existing technology and software to test new ideas about net based open learning, NOL. This gave rise to new projects and further development – even in the days before World Wide Web.

MECPOL[1] – Models for European Collaboration and Pedagogy in Open Learning (1995-98) pioneered the ODL strand (Open and Distance Learning) that was funded by the Socrates programme. 8 partner institutions surveyed existing models, as well as designing new models for ODL.

DoODL[2] - Dissemination of Open and Distance Learning (1996-98) was a follow-up of the MECPOL, where focus was set on dissemination and implementation of the models for ODL.

SHARP[3] - SHArable Representation of Practice (1997-99) focused on the use of video/multimedia in ODL material. A common database was established for sharing of video resources with annotations.

EuroCompetence[4] - A university - workplace model for developing knowledge for European Collaboration (1998 –2000). Main objectives here were methods and tools for professional collaboration over Internet.

### **National projects**

Several national ODL projects around Europe are producing valuable contributions to the total development of ODL or e-learning. Relevant examples for MENU partners are

NITOL[5] - Norway-net with IT for Open Learning (1994 – 99) started as a national version of the JITOL project, involving 4 Norwegian institutions. Riding on the waves of ODL and lifelong learning, the project grew rapidly from a limited R&D project to a national provider of NOL courses. In 1999 some 100 different courses attracted more than 5000 student entries. Thus it was decided to split the organisation. R&D activities remain in NITOL, while student- and course activities now are organised in -

NVU[6] - Norwegian Networked University (1999 -), extended from the initial four NITOL institutions to nine Norwegian universities at the moment.

FVU[7] - Finnish Virtual University involves 21 Finnish universities in a joint network, providing higher education to students all over Finland.

## **THE E-LEARNING INITIATIVE**

The European Union has for the past decades taken several initiatives to improve education and the level of competence among its citizens. The application of new information and communication technology (ICT) has been gaining more focus as the technology develops and spreads in the society. Based on different political manifests, new programmes and funding systems have been initiated.

The e-Learning Initiative taken by the European Commission in Brussels, has led to The eLearning Action Plan[8] and the allocation of funding for several projects. This is an action to boost the change from traditional education to systematic applications of ICT for the provision of flexible learning and competence building - Designing tomorrow's education, as the Commission says.

In its resolution of July 2001 the Council of the EU invites the member states to 16 different actions, among these an invitation[9]

- to foster the European dimension of joint development of ICT-mediated and ICT-complimented curricula in higher education, by encouraging common approaches in higher education certification models and quality assurance to provide incentives to establishments, faculties or departments achieving innovative and pedagogically sound work at European level, in this area

The Council also urges the EU Commission

- to continue supporting existing European portals and to encourage the development of other portals to facilitate access to educational content and to promote collaboration and exchange of experiences in the area of e-Learning and pedagogical development, especially with a view to:
- supporting trans-national virtual meeting places,
- stimulate European networking at all levels and in this context establish and provide networks for the benefit of teacher training,

- supporting directories of existing quality Internet resources  
On the basis of these documents the Commission issued a Call for proposals [10] with expressed objectives for projects under this call
- to provide support and initial funding for sustainable and scalable projects, which establish at the European level new quality networks, contents and services in the field of e-learning  
Particular areas are identified, among these
- Virtual European universities, based on partnerships and cooperation with other universities for European degrees combining courses and materials from different universities.  
This seemed to fit very well into visions of some institutions and persons who took the initiative for the MENU proposal.

## **MODELS FOR A EUROPEAN NETWORKED UNIVERSITY FOR E-LEARNING, THE MENU PROJECT**

The initiative for proposing the MENU project was taken by four Norwegian institutions that previously had been involved in the projects mentioned above. Stord/Haugesund University College was given the task of co-ordinating the project if accepted. Most of the 11 partners have long experience from net based learning activities at university level, as well as from national and international collaboration. Some of the partners represent already existing networks of academic institutions, e.g. The Finnish Virtual University<sup>7</sup> (FVU, 21 member institutions) and the Norwegian NettWorkUniversity<sup>6</sup> (NVU, 9 institutions). The intention now was to combine and expand these networks into a European dimension, demonstrating its functionality through a Model of a European Networked University, MENU.

### **Outline of the project**

From previous projects the partners knew that net-based collaboration and joint ventures between traditional universities are possible at national and at limited international levels. The current project aims at extending these activities to a Pan-European level, establishing it with a true European dimension. Concentration of the content to ICT-related studies implies an implicit contribution to the ICT literacy and exploitation of technology in education and amongst the general public.

The project focuses on joint efforts and collaboration to create a European consortium for higher education, applying experiences and findings from previous work.

### **Activities planned in the proposal**

1. Organise a network of institutions, or a 'European Networked University' (ENU), consisting of
  - a. Partnership agreement
  - b. Operationalised objectives and practices of ENU
  - c. Structure for sustainability and a permanent e-learning activity
2. Establish a (general) European Master Degree programme ('ICT and ??') as a demonstrator, showing
  - a. Specification of structure and content, with a preliminary study plan
  - b. Establish academic and political acceptance and agreements
3. Establish a system for quality assurance (of content, level, methods, services) for e-learning
4. A seminar for dissemination of findings

### **Anticipated results**

1. The model for a sustainable ENU with an array of study programmes, available throughout Europe
  2. A common quality assurance system for general acceptance of credits and degrees obtained through ENU
  3. An operational study plan for a European Master Degree programme, based on contributions from several countries and institutions, a model showing
    - a. Subject content and methods
    - b. Learning material and environment
    - c. Net based support system
    - d. Management of scaleable studies
- Publication of experiences, results and guidelines for the establishment of a permanent ENU.

### **Pedagogical and didactical approaches**

This project is not primarily aimed at development of new didactical models, it is relying on existing systems and models, and directs its actions more towards the organisation and development of a dynamic organisation that applies previously obtained results. State of the art methods and systems are being applied, in line with experiences at the partner institutions.

### **Objectives and visions**

Quite naturally the authors of the proposal had some definite objectives in mind, in reasonable agreement with the principles laid out in the call.

### ***Main objectives***

- Operationalising the political principles stated in the e-learning action plan, by establishing a strategic and business plan for an ENU, accepted and integrated into national educational programmes
- Demonstrating the possibility of developing joint study programmes across institutional and national borders
- Establishing a model for management and services for a virtual university. Options for scalability of ENU as an independent organisation or as a virtual network

### ***Target groups and their benefits***

- University teaching staff, leaders and administrative personnel
- National authorities, decision-makers and administrators (Ministries of Education etc.)
- Curriculum developers and administrators
- Learners (students, adults, teachers)

By involving these target groups, the intention is that institutions will be more European, flexible and ICT-minded, making e-learning an important part of university activities. A central obstacle in this process is often the incompatibility of assessment and quality assurance systems between institutions and countries in Europe. Joint efforts towards a common system are of great value in an international education market. Findings from the project are intended to help decision makers in their process of planning future educational systems, exploiting the potential of e-learning. Learners will have easier access to a variety of study programmes, with an international acceptance and accreditation.

### ***Added value***

National study programmes will be enriched and have added European value through the collaboration, joint marketing and exchange of courses and material. The mutual acceptance of credits and degrees obtained through joint study programmes is an innovative asset of significant value. Bringing universities from traditional organisations (campus/lecture halls) to dual mode institutions is essential to Pan-European higher education.

### **The project organisation**

With a predicted project duration of only 18 months that was in practice reduced to 12 months the activities had to be well planned and structured for efficient performance.

There are four main stages in the project

1. Establishing the partnership and agreeing on principles, goals and methods
2. Analysing existing institutional strategies and systems in order to create the necessary documents / plans for the joint model
3. Testing the model by running real courses on the net; quality assurance
4. Finalising the model, based on plans and experiences; dissemination of results

Parallel to these stages there is an evaluation process for the whole project going on, as well as the management of project activities.

### ***Methods***

Naturally, ICT is the most central tool during the project period, as well as in the sustainable trade-off from the project. All partners involved have competence, capacity and experience in this kind of work, relying on Internet as the main communication channel between partner meetings. The organisation of 11 partners in a collaborative project offers a relevant test bed for the intended networked university that is expected to be the dynamic outcome.

The technical and pedagogical methods applied in the project build on previous projects and experiences among partners. A further exchange of know-how and competence is the basis for project development. This includes exchange of educational resources (research results, learning material, access to expertise etc.), virtual mobility of students (taking courses across the network, international/European degrees etc.), virtual mobility of staff (providing material and guidance across institutional and national borders), and the synergy of combining already existing administrative systems.

The organisational method for the project is based particularly on the experiences from the Norwegian NVU and the MECPOL project, where models for collaboration and organisation have been prescribed and tested at a smaller scale (4 – 10 institutions). Partners in these projects strongly believe that this method is scalable and can constitute the core of an ENU organisation. It is also believed that this organisational model makes it possible not only for large institutions to offer e-learning programmes, but also for smaller institutions, through collaboration. A major task in the project is to develop this into sustainable model for larger networks and international student bodies.

A quality assurance system (QAS) is a central task in the project. To survive the international hype of e-learning, universities must make the most out of their tradition on professionalism and research based guarantees for quality and relevance of their courses and study programmes. This task has been approached by surveying existing QAS at the partner institutions and other available material on the topic, forming a synergetic product that is taking the new learning environments and methods of assessment into account. In fact it turns out that this work is yet only at an early stage at most educational institutions, since they are still mainly relying on traditional curricula and exams. The rules and regulations are not in phase with new technology and new methods. There is thus an urgent need to establish international agreements and principles of acceptance in this matter.

### **Technology**

Through previous national and international projects the policy has been to stick to general, open systems instead of committing the whole group to a proprietary system. This may cause some delays and extra difficulties in production and distribution. But on the other hand, it will avoid compatibility problems, extra costs and installation procedures for the users

### **Material and learning environment**

The first attempts to create Open and Distance learning (ODL) or Net based Open Learning (NOL), were clearly coloured by traditions from paper based distance education and by lectures in classrooms. Expressions like virtual classrooms, fixed schedules with lessons and assignments are clear reminiscences of classical universities and correspondence schools. Nothing wrong with building on solid traditions, but this might not exploit the full potential of the technology, its possibilities for improving the learning environment. MENU hopes to combine well established principles with innovative and visionary methods.

### ***Courses and learning environments***

We use what already exists at the different institutions, because of the time limit. The learning environment tool should contain 4 main arenas:

1. Presentation-/lecture area for text files, web-sites, overheads, video, animation etc.
2. Working area with software tools, word processor, group-ware, workbook/portfolio etc.
3. Knowledge-area with oracles & help services, a FAQ-base, library services via Internet etc.
4. Private area for private files, a database, workbook, personal work-/study plan etc.

On top of this, there has to be a net based communication environment.

The project group has not taken any decision on a common platform that satisfies all these criteria, but sticks to the previously mentioned principle of open and general tools for implementation of learning material and arenas. This has prevented heated discussions on technology and software, concentrating the efforts on content and methods of learning.

### **STATUS**

The project is now coming towards its end, but outcomes are still not fully formulated or conclusive. The main output of the project is the model for a European Networked University, ENU. It is still a preliminary version that is presented at this conference. The final version will be made available to interested parties through different methods of dissemination. Means for evaluating the model and its functionality are the 'user trials', i.e. the Demonstrator that is not yet finished. Feed-back from partners and outside institutions will judge the quality and relevance of the products.

Other outputs are parts of this main product, the ENU model. The demonstrator will prove - or disapprove - that the model really works. Feed-back from students and evaluating observers will indicate the quality of the model, the functionality of the network, the efficiency and organisation of e-learning activities. Preliminary publications at this conference and dissemination to the outside world will hopefully lead to further feed-back and opportunities to revise and improve the model.

Working in surroundings of multimedia, it is only natural that parts of the material will be published through video and graphical recordings. Recorded video sequences of lectures, demonstrations etc. are made available over the Internet. The technology of digital video and 'streaming video' is tested as part of the demonstrator as well as at this conference.

### **Organisation**

The model [11] that is later presented here outlines how a future European Networked University, ENU, can be established. Based on more extensive documents that have been produced and discussed during the project period, it now includes

- a strategic plan of ENU for development and expansion
- a business plan; how funding and economy can be sound enough for a sustainable consortium

- study programmes and study plans, including exchange of modules and courses, mutually acceptable assessment systems, grading systems etc.
- a quality assurance system [12] across institutional and national borders
- advise on general aspects of technological platforms in a network and examples of practical solutions

All these chapters of the model description are further elaborated in the separate deliverables that are presented on the MENU home page.

The over all conclusion is an ENU as a virtual network of independent, dual mode institutions, not an ENU as a legal institution in itself. Each institution is responsible for its own study programmes and courses, and students are registered directly at these institutions.

### **The demonstrator**

The project group promised to run part of at least one master degree study programme as a demonstrator of the functionality of the model. Two alternative master programmes were suggested: ICT and Learning and ICT Engineering, both hosted by Norwegian institutions. Both of these are in close agreement with the EU Council resolution, where both studies aiming at education and training of teachers (ICT and learning) and study programmes to increase the skills within ICT (ICT Engineering) are central goals. During the project period another master degree programme turned up as a very interesting challenge, a master degree in Global Environment and Development Studies [13] (GEDS), sponsored by the UN Global University and developed by GRIDA, closely related to one of the MENU partners, Agder University College in Norway (HiA)

As suspected already from the (delayed) start, the very limited project period turns out to be too short for realistic user trials. At the moment the project management group is considering a further prolongation, e.g. till the end of the year.

### ***ICT in Learning***

This master degree programme was initiated by the MENU co-ordinator, Stord/Haugesund University College, in mid 2001. The development and implementation of the program was, however, strongly accelerated and focused as a result of the EU project responsibility. The intention was to enrol the first students in September 2002.

Due to different delays in the project start-up, the students could not be registered until December, and a small group of students finally started their studies in January 2003. Experiences from this group can only be reported after one single term of practice, i.e. in June 2003. For reasons of short notice, mainly national students are accepted at this stage. But the intention is to attract international groups of students at the next stage, i.e. in August 2003.

Course material and some tutoring are nevertheless tested in international settings, across borders and institutions. The material available to master students on the Internet includes e.g. introductions to research methods as streaming video by prof. Gavriel Salomon from Haifa University, in English, distributed from a server at NTNU (P3 in MENU) to students spread all over Norway, but registered at HSH (P0 in MENU). There are also regular sessions of Internet based two-way video discussions between the professor and individual students.

There is also under preparation a full 10 credit course on Science Theories and Research Methods as an on-line course to an international group of master students. The time is short, but hopefully this can be achieved as a joint effort by several MENU partners. So far, learning resources are being offered on-line by HiK (P9 in MENU), in Swedish, to the same group of students.

### ***ICT in Engineering***

This master program is offered by HiA (P2 in MENU), mainly as an already established study within the Norwegian higher educational system. Most of the material is only available off-line, in Norwegian. But one particular course, 'Multimedia', is offered in English, on-line as a 15 credit course on technical applications of ICT. This course is followed by students from Finland (FVU, P8 in MENU).

### ***Global Environment and Development Studies***

MENU partners are both contributing and gaining experience from this on-line study offered by GRIDA. (More about this in a later plenary session .)

### **Collaboration**

How can two or more institutions collaborate so that each one of them promotes their own competitive ability to recruit new students? Taking it for granted that there is only a fixed number of students to compete for, this may be hard to see. Our previous experience, however, shows that through collaboration and sharing of expertise and exchange of products, leads to better and more flexible study opportunities. This in turn recruited a larger total number of students, thus improving the results for all partners involved. The movement towards lifelong learning for all, provides an extra potential by involving

adult professionals of many trades. These future 'students' are often restricted by daily work, families, geographic location and available funding, and will see e-learning as a natural solution to their needs.

Moreover, both young and adult students will gain by the collaborative venture, at least in two ways:

- 1) Study material and learning environment provided by joint efforts, have a higher quality and usability than if each individual institution, with limited resources, should develop it all alone
- 2) Access and availability is improved by offering the studies from multiple locations, thus closer to a larger part of the population, e.g. for marketing, local support and physical meetings of regional groups

Thus the principle of collaboration leads to a win-win situation, for both institutions and learners. This is also relevant for on-campus students who are offered the same on-line learning material as a basis or as a supplement to regular lectures and paper based material.

Due to the short period for the testing of this demonstrator, the above effects have not been markedly observed in this project. The involved partners, however, feel reasonably sure that the positive effects will occur in the next stages.

### **Obstacles to overcome**

It seems to be a basic mistrust between institutions that are traditionally competing in the same market. Our project, as well as past projects, indicates that binding contracts and signed documents are necessary as a basis for collaboration, committing both professional staff and administration to accept the terms of joint ventures. Some of the critical points are

- mutual acceptance of student qualifications (QAS12)
- exchange of material and know-how / expertise
- agreements on strategies for programmes involved
- common or mutually accepted evaluation systems
- economic terms for students and staff (fees and compensation systems)
- marketing of studies and registration of students

All these items were settled and agreed upon in a partner contract for MENU, before conflicts were given a chance to spoil the positive attitude for collaboration. This partnership agreement may be a model for the ENU contracts as well.

### **From model to a permanent ENU**

Revisions of the basic documents, i.e. the strategic plan, the business plan, study plans, and the experiences from the model trials, the demonstrator and its evaluation, has provided a basis for a more permanent ENU organisation. The 11 partners will be the core institutions of the consortium, but will also invite others to join. The preliminary plans are made available to you here at the dissemination conference in Valencia. Final plans will be published in reports to the Commission and on our web site.

If successful, this organisation will promote virtual mobility of students, academic staff and highly skilled experts. This will also prepare the grounds for mutual and international recognition of academic standards, credits and competence. Hopefully it will help overcoming barriers of language, cultural and political differences, and academic pride related to availability and acceptance of higher education. This is in accordance with the EU educational policy, but may also have effects far beyond Europe.

In the final report and through other publications and presentations, the intention is to set up the practical road map on how to extend the ENU from the MENU basis. Partners will have the opportunity to withdraw or to continue the collaboration, while new members are welcome into the group.

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