

Document title:	<b>Report on Study visit to the Helsinki University of Technology - Lifelong Learning Institute Dipoli (TKK Dipoli)</b>	
Study visit host:	<b>Anna-Kaarina Kairamo</b> - Training Manager, TKK Dipoli <b>Heiki Hallantie</b> - Development Expert, TKK Dipoli	
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Duration of visit:	September 20 - 24, 2006	
Report prepared at	July 2007	
Report prepared by	Lucijana Leoni	

## I GENERAL REMARKS

Study visit to Helsinki University of Technology (<http://www.tkk.fi>) and Lifelong Learning Institute Dipoli (TKK Dipoli) (<http://www.dipoli.tkk.fi>) is the fourth study visit of Croatian representatives to European consortium partners realized within the framework of the EQIBELT project. As for all study visits, this one has had the purpose of acquiring the knowledge and experience through direct contact with experts and practitioners in the field of e-learning and of lifelong learning, to learn best practices, to discuss and analyze successful and unsuccessful projects and to have on-site practical overview and experience on organization and delivery of support in the field of e-learning.

The host of the study visit and the organizer of the program were **Anna-Kaarina Kairamo**, Training Manager at TKK Dipoli and **Heiki Hallantie**, Development Expert at TKK Dipoli.

They welcomed the Croatian delegation at the Lifelong Learning Institute Dipoli and presented them the scheduled program of the visit. Topics of the program were e-learning at the Lifelong Learning Institute Dipoli, and implementation of e-learning at the Helsinki University of Technology. The program included presentations prepared and delivered by experts involved in the e-learning education programs in these institutions.

The visit was well prepared and organized by Helsinki University of Technology, providing contacts with high competent experts and very useful discussions on topics relevant to project goals and objectives.

Presentations were held by:

- ☛ **Anna-Kaarina Kairamo** - (Training Manager, TKK Dipoli) and **Matti Sinko** (Head of the International Projects, TKK Dipoli): *Introduction to Helsinki University of Technology (TKK) and Lifelong Learning Institute Dipoli (TKK Dipoli)*
- ☛ **Heiki Hallantie** (Development Expert, TKK Dipoli): *ICT enhanced teaching and learning at university level – The Finnish model, the TKK model.*
- ☛ **Hannu Peltola** (FVU Service Unit): *Finnish Virtual University: strategies, services, projects, standards*
- ☛ **Markus Sipilä** (Project Coordinator, TKK Computing Centre) and **Heiki Hallantie** (Development Expert, TKK Dipoli): *eTKK and Noppa - Developing services and portal for teaching and learning*
- ☛ **Anna-Kaarina Kairamo** (Training Manager, TKK Dipoli): *Teaching and learning development support services at TKK Financial models*
- ☛ **Tapio Koskinen** (Senior Expert, TKK Dipoli): *Short introduction to European Foundation for Quality in eLearning*

## II FACTS FROM PRESENTATIONS & REFLECTIONS ON DISCUSSIONS:

**Anna-Kaarina Kairamo** - (Training Manager, TKK Dipoli) and **Matti Sinko** (Head of the International Projects, TKK Dipoli): *Introduction to Helsinki University of Technology (TKK) and Lifelong Learning Institute Dipoli (TKK Dipoli)*

Teaching and research at Helsinki University of Technology since 1849, began at the Technical School of Helsinki, then the Polytechnic School, and finally the Polytechnic Institute was made a university-level school on April 2, 1908 and renamed the Technological University of Finland. Helsinki University of Technology is an internationally renowned university of technology, known for its high standards in research and teaching, its social impact and ability to change with the times.

Helsinki University of Technology is a pioneer in facilitating cooperation with leading universities and innovative enterprises.

The researchers, teachers, and students who seek to work or study at Helsinki University of Technology rank among the best in their countries.

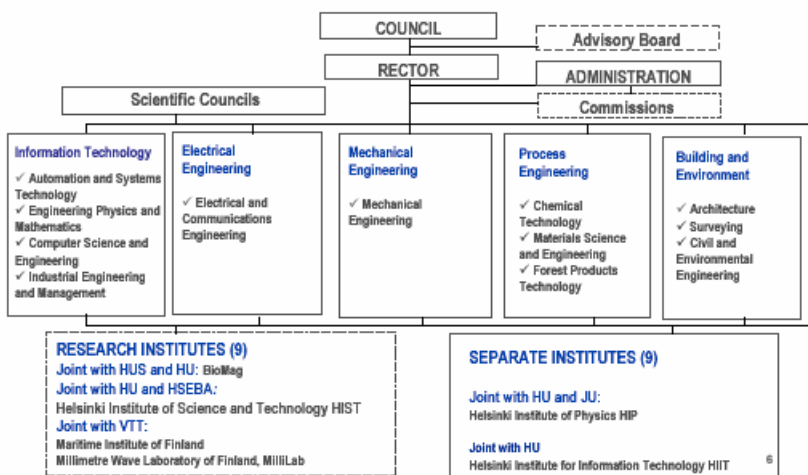
Helsinki University of Technology fosters freedom of research, art and teaching, values creativity and critical thinking, requires an honest, responsible and ethically sustainable approach in all its activities, respects individuality and the special characteristics of all cultures, provides challenges in work and co-operation and promotes the well-being of staff and students.

Its success factors are:

- high scientific standards
- Competitive graduate schools
- High-quality first degree programs
- Talented students
- Ambitious co-operation with enterprises
- Attractive campus

It has 12 Departments, 8 separate Institutes, 5 joint Institutes, 9 Research Institutes, 19 degree programmes, Centres of Excellence in research and in teaching. It has approx. 15.000 students (13.000 adult students). Its budget in 2005 was 205 003 000 EUR, 43 % from external financing and 57 % from national budget. The Ministry of Education nominated Helsinki University of Technology 2007-09 - High-quality Adult Education University.

### Organization of Helsinki University of Technology



**Lifelong Learning Institute Dipoli (TKK Dipoli)**, an adult education unit of Helsinki University of Technology, was founded in the early 1980's and is one of the largest continuing education providers among universities in its field in Europe. Operating as part of Helsinki University of Technology, TKK Dipoli acts in the forefront of technological development, offering a wide range of continuing education programmes to Finnish engineers. TKK Dipoli is also a major contributor to internationally recognized learning and research

programmes. By developing methods and utilizing eLearning technologies TKK Dipoli sets itself as the forerunner in the field of continuing education programmes on national and international levels.

**Heiki Hallantie** (Development Expert, TKK Dipoli): *ICT in university education: eLearning in the Finnish Way, Case Finland and Helsinki University of Technology*

### University as an institution of Information Society

- ICT considered as social communication system instead of technology
- focus on systemic level from individualistic teacher-learner centric approach
- ICT will be an essential part of new education system
- e in e-learning should be read as "enhanced" (Dr. Jyrki Pulkkinen/Dissertation 2003)

### Megatrends & Weak signals

- Technology trends
  - price/performance getting better
  - ubiquitous computing
- Globalization
- Demographic factors
- Bologna process
- Big changes in education systems unavoidable

### Adoption in pilot courses

- Student database in 90's
- Web-based course registration system in 90's
- Finnish Virtual University initiative 1999
- Common Learning (Optima) platform in 2004
- MLE- project in 2005

**Electronic environment@Helsinki University of Technology – eTKK** [www.tkk.fi/eTKK](http://www.tkk.fi/eTKK) (in Finnish only)

Project coordination (M.Melin / M.Sipilä)				
<b>eAGE – electronically Administrated Generic Environment</b>	<b>MLE - Managed Learning Environment</b>	<b>CMS – Content Management System</b>	<b>Quality system</b>	<b>URTHA – Project Management System</b>
M.Pirttivaara J. Salmela	H.Hallantie T.Toivonen	M.Melin J.Lahtinen	M.Melin	I.Lähteenmäki
Shibboleth (A.Tontti)= SSO user recognition				

### Existing systems that must work in cooperation with the new systems:

- Employee information system
- Study systems
- Billing system
- Travel system
- Electric phonebook
- Machine registry
- Economy management system
- Resource management system

### e-Learning environment

- Autonomy of the University
- Autonomy of Departments
- Autonomy of laboratories
- Consequence: weak central administration
- Lots of individual solutions
- Internal competition

### Present situation

- Usage of central learning platform is increasing rapidly (3600 user accounts)
- MLE- portal is at requirement planning phase
- Lots of integration needs

- Single sign-on and Web services as solution

#### **Lessons learned**

- Progress is much slower than anticipated
- Avoid technology push
- Involve users
- Process re-engineering is necessary
- Paradigm change in education necessary

#### **Roadmap to the future**

- University as an institute of Information society
- Universities as regional players
- From formal hierarchies to open networks
- Global competition and co-operation of Universities

#### **Conclusions:**

- at university level there is understanding that an information system is a must.
- researchers have always been a networked community.
- e-learning is not making learning/teaching cheaper and faster
- university is a vehicle of information society
- technology is far ahead its application
- ICT is considered as social communication system instead as technology

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**Hannu Peltola** (Director Service Unit of the Finnish Virtual University): *Finnish Virtual University: strategies, services, projects, standards*

*...THE VIRTUAL UNIVERSITY HAD BEST TO BE A CONSORTIUM OF A WELL-ESTABLISHED REAL UNIVERSITIES...*

21 FINNISH UNIVERSITIES (Government)

- 10 multifaculty universities
- 3 technical universities
- 3 business schools
- 4 art universities
- 1 National College for Defence

#### **Higher Education Policy in Finland, guidelines 1999-2004**

Education and research seen as crucial to Finland's national economic and political strategy for the future. In 1999 the Government fixed the guidelines for higher education up to the year 2004.

The Information Strategy for Research and Education centered on:

- Reforms of University education towards a more student-centered teaching methods
- The development of teaching and learning to especially capitalize on network-based and open and distance learning
- The promotion of the use of ICT in education and research
- Virtual university, established to produce high-standard educational services which enable studies to be pursued in every part of Finland through networks

MinEdu requested all the 21 Finnish Universities to prepare ICT strategy for teaching and learning at the end of the year 2002

#### **FVU Mission**

The Finnish Virtual University (FVU) is a network organization for co-operation among Finnish universities

The FVU promotes the development, production and distribution of network-based educational and research services for shared use and provision by universities in national and international contexts

The FVU bases its development work on state-of-the-art research

#### **FVU in a nutshell**

- a consortium of all 21 Finnish universities
- a co-operative and service organization of the universities
- does not award degrees or qualifications
- operation started in 2001 and until December 2006 the FVU operates as a project organization

- no legal authority yet

### **Higher Education and ICT for Teaching and Learning**

Four phases:

The Equipment Phase (Iron Age) 1995-1999

The Competence Phase 2000 -2001

The Strategy Phase 2002 - 2004

The Network Phase 2005 - 2009

### **Finnish Virtual University activities**

National level activities at Service Unit

- Common portal and support services
- Common agreements
- International co-operation

Inter-University co-operation

- Thematic networks
- Common services
- Development projects

Local activities at each university

- e-learning material
- Learning systems
- e-Learning courses
- ICT training
- Local support services

### **Management Model of the Finnish Virtual University**

Consortium Assembly: FVU strategy and national guide lines are decided at FVU Consortium

Assembly: Each university and Ministry of Education are represented.

Steering Group: steering Group takes care of operational management

Service unit: coordination of national development projects

### **Experiences**

- all universities have made ICT strategies
- the quality of university strategy work has increased
- the openness of universities goals has increased

### **Case: Learning Center "Aleksandria" at Helsinki University**

The Finnish Virtual University activities of Helsinki University are organized as Learning Centre "Aleksandria"

- In addition of the virtual university activities the unit has components of university library, university language centre and IT support units.
- The Language Centre is responsible for the Self-Access Centre for language study
- the Library offers a major part of Aleksandria's library services
- Information Technology Department takes care of IT support, user account administration, and software distribution and sales.
- At the Learning Centre there are 350 computers available for the students' use free of charge 24 hours per day.
- The local virtual university unit offers the teaching staff of the University of Helsinki support services in the use of ICT in teaching.

### **Case: ICT training program "TieVie"**

- Finnish Virtual University ICT training program "TieVie" is networked expert organization comprised of experts from 13 universities
- TieVie has trained almost 600 university teachers to have the basic level educational ICT skills and over 300 teachers and specialists have been trained to expert level.
- Altogether the number of trained people represents about 11 % of total number of Finnish university teachers.

### **Case: Service unit**

- The Service Unit of the Finnish Virtual University offers and maintains the national virtual university services like portal services and flexible study right services.
- The unit negotiates national level agreements between the consortium members and with partners.
- The personnel participate in national development projects and the results of the projects are distributed via service unit channels.
- The service Unit is also one contact point for all domestic and international contacts.

- The service unit has a staff of 7 persons.

### Challenges

- Management model complicated
- responsibilities of different organizations shall be defined in more detail
- Financing model
- Today sole dependency of MinEDU funding
- 50 % directly to universities, 50 % to university networks
- 21 different opinions and strategies of parent universities
- Challenge to manage but also a strength: different views and plenty of ideas collected in each project
- Legal entity will be formed in 2006
- Today totally different IT systems
- Common infrastructure will be built on key areas
- Joint quality criteria will be defined by 2005
- Extensive quality program for e-learning in 2004-2006

### On-going international projects

- EU research projects
- Co-operation projects with selected partners
- Information exchange, change on best practices

**Markus Sipilä** (Project Coordinator, TKK Computing Centre) and **Heiki Hallantie** (Development Expert, TKK Dipoli): *eTKK and Noppa - Developing services and portal for teaching and learning*

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### Objectives of the presentation:

To learn and to discuss your experience in:

- defining some general framework for e-learning or using ICT in education at the university level
- organizing support to teachers during the development and delivering of e-content (e-learning modules)
- organizational and financial models to develop e-content
- standards and recommendations in e-learning

### eTKK consists of five projects

- Content Management System for web publishing
- Noppa-portal & Managed Learning Environment
- Project management system for researchers and administration
- eAGE: electronically Administrated Generic Environment
- Publishing platform for university wide quality system

### To survive in the global and local competition

- We need more effective processes
- We need to ICT systems to support these processes
- These ICT systems must be usable and designed user centrally

**ICT will NOT solve the challenges by itself** but its necessary tool in today's digitalizing environment

- ICT is only one part of organizations socio-technical environment
- ICT is not the purpose but the mean and will not solve the challenges by itself

### Integrating systems to support user's processes

Noppa-portal

- Personalized front page for students and teachers + course home pages
  - Focus is on supporting the daily processes
  - Oodi
  - Main student and course register
  - Study planning
  - Course enrolments
  - Optima (20% courses do not use Optima)
  - e-learning
  - Groupware
  - Single Sign On with Shibboleth
- 100% of courses should use Noppa portal and Oodi

The screenshot shows the Noppa-portal interface with the following sections:

- Navigation:** Noppa-portaalin etusivu, WebOodi, Optima, Asetukset, Ohjeita, Logout (Switch role).
- My courses:**
  - Calendar of my courses' events: Weekly schedule, List view for deadlines and exams, Monthly view.
  - Latest news from my own courses: A list of news items with titles and dates.
  - News for students: A list of news items with titles and dates.
- E-mail:** Unread messages: 12, To webmail.
- My links:** Surfing, Description lorem ipsum dolor, Some other link, Description lorem ipsum dolor, Page links.

Footer: Footer, mahdollisesti aputoiminnallisuuksia (esim. tulostusversio)

### Standardized course pages

- All courses should have the following pages in Noppa
  - Course brochure
  - Course news
  - Timetable
  - Course results
  - Exercises and course material
- To help teachers create the content
  - custom made templates and easy-to-use tools
  - tools are designed to support different kinds of processes
  - i.e. there might be two ways to do the same thing
  - Both ways lead to the same result

### The teaching is left to the teachers

- Noppa-portal does not dictate to teachers what they should do in the classroom
  - There are different types of courses and different types of teachers
  - Different pedagogical methods exist and so be it
- However by doing the basic things with Noppa-portal help teachers create the content and rise the quality of teaching to students.

### Standardisation

it is important to make WS-I compatible [www.ws-i.org](http://www.ws-i.org) (interoperability)

### Anna-Kaarina Kairamo (Training Manager, TKK Dipoli): Teaching and learning development support services at TKK Financial models

#### Human support for infrastructure (Tony Bates, 2000)

- Technology infrastructure staff: ensure that the networks and equipment are operated, installed, updated, and maintained
- Educational technology support staff: support the creation and application of educational materials and programs using technology (interface designers, graphic designers, videoconferencing managers)
- Instructional design staff: provide educational services and expertise, support the use of technology for teaching and learning (instructional design, faculty development, project management, evaluation)
- Subject experts: create the content and provide the teaching

#### Background

- Research university culture: loose coalition of autonomous actors
- Research: traditions of collective discussion and critics, cumulative knowledge
- Teaching: still tradition of the classic university existing: teaching is the individual activity of the teacher, the master
- Predominant teaching methods of HUT courses: lectures, problem-solving exercises, individual or group design work or laboratory work

#### HUT steps of action

- Some centrally lead actions taken appr. every 5 years: mainly projects

- "The Virtual Campus" information management strategy 1997
- Study Affairs Committee focus on developing teaching 1998- 2000
- Towards Virtual HUT project, an umbrella for the ICT in teaching demonstration and development work in autumn 1998
- Setting up a support network for teaching and learning in fall 1999, launched in spring 2000
- Virtual HUT - project spring 2001 (under the framework of Finnish Virtual University)
- Undergraduate education strategy 2001
- Information strategy 2003
- Implementation of Bologna two-cycle structure + ECTS 2005
- Preparing for audit of quality assurance system 2006
- Audit 2007

Financing of the development work of departments, laboratories

- Training programmes for free (financed by the rector)
- Grants for development projects
- Centres of excellence
- Consultation
- Development project support, facilitation

Ideas behind the services Teaching and Learning Development

- Goals of the teachers and the laboratories are the basis
- Providing forums to develop own teaching (it is a process, requires time!)
- Providing forums for exchanging experiences
- Spokesman: collects experiences and ideas for development and strategic decisions at the university level
- Quick reacting
- Information service
- Participates as an expert in strategy + central development work

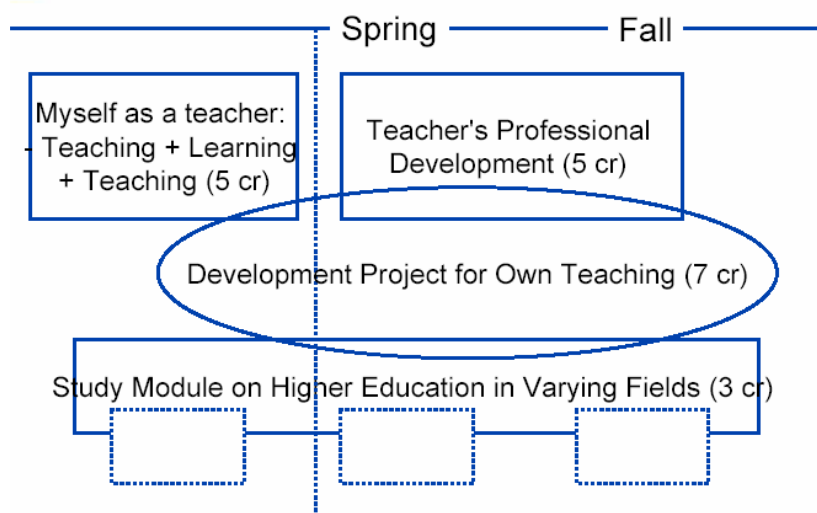
Services of Teaching and Learning Development

- Training of teaching staff
  - Higher Education Pedagogy programme (20 ECTS)
  - Myself as a Teacher (5 ECTS)
  - Tutoring
  - Workshops on "hot" topics
- Tailored trainings and workshops for departments, special interest groups
- Study skills courses, services
- Information service [www.dipoli.tkk.fi/ok](http://www.dipoli.tkk.fi/ok)
- Expert work in committees, internal + national projects
- Support for Virtual Learning Environment (separate project funding)
  - 0,5 FTE for eTKK (MLE of HUT)

The development staff managers for contact with teachers and students who are acquainted with ICT is missing.



## Program on Higher Education Pedagogy for HUT teachers (20 cr)



### TieVie project

- A support service project in the framework of Finnish Virtual University
- Supporting the university teachers by providing national training programmes on ICT in teaching and learning
- A networked project by 5 universities (□the Planning group of the training)
- Financed by the Ministry of Education (2001 – 2006, continuation)

### 2000: National framework for Teacher Training Projects

OPE.FI II level:

Half of the teachers must master the skills using ICT in educational purposes; a versatile use of the e-mail, the web-environment and pedagogic applications and digital learning material available in the subject and the knowledge of principles of producing digital learning material

OPE.FI III level:

About 10 % of the teachers must master a specialized knowledge of ICT content specific and professional applications, institutional information management, an ability to assist, support and train colleagues, develop the school community, act a part of an expert network.

OPE.FI I level:

Every teacher must master the basic skills of using ICT; Common use of a computer, mastery of word processing, Internet browser and e-mail, understanding the principles of educational uses of ICT.

### 2006: TieVie framework for Teacher Training

- OPE.FI II level:  
Teachers master the skills using ICT in educational purposes - learning resources for local training
- OPE.FI III level:  
Teachers master a specialized knowledge of ICT content specific and professional applications, institutional information management, an ability to assist, support and train colleagues, develop the school community, act a part of an expert network.
- OPE.FI I level:  
Embedded ICT skills
- "OPE.FI IV level":  
Networking and other new forms of work in knowledge society  
Quality issues, organisational issues  
ICT supported university - ICT integrated to the study process

**Tapio Koskinen** (Senior Expert, TKK Dipoli): *Short introduction to European Foundation for Quality in eLearning EFQUEL*

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**EFQUEL** is a sustainable multi-point and multistakeholders structure promoting innovation aiming at enhancing the Quality in European E-Learning by providing a set of support services in terms of

- Information and Recommendations
- Dialogue
- Networking

The EFQUEL enhances the quality of eLearning in Europe by providing a new services framework for members and support for all stakeholders. The Foundation is built on principles of dialogue and inclusiveness to promote excellence and innovation in order to achieve a Learning Europe

#### **Guiding principles**

- Openness
- Inclusiveness
- Self-sustainability
- Representatively
- Flexibility
- Dialogue
- Generative Environment
- Leadership

#### **Members**

9 European networks: EUN, EDEN, EIFeL, MENON, EENet, EFMD, EKMA, ESIB, EuroPACE and others like SCIENTER (Bologna), METID (Milano)...

#### **State of the art in a nutshell**

- 46 members (including 9 EU networks)
- EFQUEL Conference on "Innovation for Quality" in December 2005 (over 150 delegates from over 20 countries), next conference foreseen for December 2006
- 11 SIGs established on eLearning quality specific themes
- collaboration with international organisations: UNESCO, World Health Organisation
- [www.qualityfoundation.org](http://www.qualityfoundation.org) portal launched, as an open space for information and networking on eLearning quality themes
- International networking, in Africa, Latin America, Russia...
- preparation of the European eLearning Quality Mark
- preparation and consensus exercise on the 1st EFQUEL Green Paper "Learners as active stakeholders of eLearning quality"

#### **Workplan**

##### **OBJECTIVES (ACHIEVEMENTS IN JULY '06)**

- To facilitate dialogue and open collaboration and to support the sharing of experiences and approaches among all the actors involved with eLQ
- To produce an influence on European eLearning policy and to contribute to set the priorities for research in the field of eLQ
- To extend the EFQUEL network to all actors interested in European eLQ
- To establish a European Quality Mark (EQM) on eLQ
- To sustain and integrate the capacities for observation and collection of quality strategies
- To foster aggregation of actors and to install Working Groups and concrete workplan-based activities
- To enhance, organise, structure the EFQUEL members services and to facilitate the internationalisation of successful practices and services in the field of eLQ

#### **Special Interest Groups**

eLearning Quality Standards  
Quality of Digital Learning Resources  
Quality of Global Learning  
eLearning Quality in Healthcare sector

The e-learning quality inside managerial education

Quality Mark

e-Portfolio and eLearning quality

Quality in lifelong eLearning

Training teachers for Quality in the knowledge society

User's perspective on eLearning Quality

Quality in skills standards: bridging the gap between qualifications and skills

### **EFQUEL eLearning Quality Mark: proposed scenarios**

1: eQuality Mark, certification for "intelligent organizations in the use of ICT"

2: Certification of HE and training providers

3: eLearning Quality strategy services to local and national governments

4: "Europeanise" successful national QM

5: "De-sectorialise" successful sectoral QM

### **EFQUEL QualityPedia**

- Open collaboration tool

- Different and established cultures

- Complementary and comprehensive

- "Self-adaptive" to different views of quality

- Based on open debate and discussion

- To progress from Knowledge Management

- Towards sharing knowledge, values and consensus

- In and for the EU eLearning quality community QualityPedia

[www.qualityfoundation.org](http://www.qualityfoundation.org)