

Megatrends in e-learning provision - Literature review by Desmond Keegan, Morten Flate Paulsen & Torstein Rekkedal

with the support of

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Introduction

The MegaTrend project is based on the basic assumption that the most evident mega trend in distance education, e-learning and online education today is the development from small-scale experiments to large-scale operations. During the last ten years disturbingly many projects that have been based on top-down political decisions and projects that have received large – some very large - external funding, have been closed down when the external funding has ended. In fact, very few institutions find that online education has been an economic success or cost-effective relative to traditional forms of educational provision, specifically if one disregards extraordinary research and development grants from external sources.

The other, and positive side of the coin, is that some institutions have managed to develop efficient, stable, robust and potentially sustainable large-scale online learning provision. These institutions may have different origins. Large-scale e-learning institutions may have been established as a result of the emerging potentials of the new technology; they may be the result of a successful transformation of distance education operations based on first or second generation distance education (Nipper 1989, Taylor 2001); or they may be the result of transformations of traditional educational institutions or other types of training organisations.

The observed mega trend of developments from small-scale to large-scale operations has a tremendous impact on individual students and educators, on educational institutions and the entire society. As online education will affect hundreds of thousands, possibly millions of students, it is specifically important to study how institutions can organise and finance online education in ways that secure that the solutions are robust and sustainable, academically and pedagogically sound, and not least cost-effective.

One may also observe other major trends in the development of e-learning and online distance education on the European scene today. These are, for instance, the political interest both on European level and national level of harmonization of the educational systems and the stimulation of the transformation to a greater use of e-learning for more efficient education and training, efforts of standardization of learning, technologies and software, attention to the need for quality assurance systems both by governments and institutions and market acceptance of e-learning and online education.

All these aspects are related to the main objectives of the MegaTrend project, which will study and analyse examples of excellence that demonstrate

successful development of sustainable and cost-effective large-scale online education. These are defined as the Mega Providers of e-learning.

The literature review has demonstrated that there is a huge amount of literature on the development of e-learning and online education in Europe. There is also a considerable amount of reports and articles on the topic of quality in e-learning (Rekkedal 2006).

Methodology

The *Megatrends in e-learning provision* project is built around a scientifically-designed research methodology. This methodology has five stages.

STAGE 1 is a bibliography of the megatrends in e-learning provision. This bibliography is compiled in the target languages of the project: English, Spanish, Norwegian, Hungarian and Estonian. It focuses on robustness in e-learning provision, sustainability in e-learning provision, quality in e-learning provision and megatrends in e-learning provision.

The bibliography has three purposes:

- To provide the essential database on which the project rests
- To be used in STAGE 2 to fine tune the megatrends to provide a definitive listing
- To provide a service to researchers and providers of e-learning systems by providing them with a bibliographic tool on the Megatrends in e-learning.

STAGE 2. Preliminary work carried out within the partnership had already produced an initial listing of the Megatrends in e-learning (see Paulsen, M (2003) *Online education. Learning Management Systems. Global elearning in a Scandinavian perspective*. Oslo: NKI). In STAGE 2 this preliminary listing is fine-tuned to produce the definitive listing on which the work of the project is grounded by being compared with the results of the bibliographic search.

STAGE 3. In Stage 3 the mega providers of e-learning are identified in accordance with the precise criteria established by the project. The research is carried out in 26 European countries (the 25 members of the European Union and Norway). In addition to the research carried out by the partnership in the 26 countries indicated, the project website carries an invitation to the membership of EDEN (the European Distance Education and E-Learning Network) and other authorities in European e-learning to nominate providers which meet the project's criteria. In this way the project's listing of the Mega Providers of e-learning in Europe is built up.

STAGE 4. Once the listing of the Mega providers in European e-learning has been established, the next stage is to analyse them. The Megatrends criteria identified in STAGE 2 above will be applied to the providers listed by the partnership.

The purpose of this analysis will be to establish:

- What contributes to critical mass in e-learning provision
- What is needed to provide robustness in e-learning provision
- What is needed to provide sustainability in e-learning provision
- What enables an e-learning provider to progress from the status of a fragile e-learning project to a stable and permanent provider.

The work of analysis will be carried out in one of three ways:

Firstly, the listed provider is allocated to a member of the partnership for analysis against the criteria listed in STAGE 2, preferably by participant observation and interviews with prominent institutional stakeholders, if possible by travelling to the Mega provider.

Secondly, a representative of the Mega provider identified, may be chosen and asked to provide the analysis by using the definitive listing of the Mega trends established in STAGE 2 above.

Thirdly, if it is not possible to travel to the provider concerned, the analysis will be allocated to a member of the partnership who will use documentation provided by the institution and telephone interviews with leading stakeholders in the institution.

STAGE 5. Once the analyses of the Mega providers have been completed, the members of the partnership will collate the data collected and produce definitive reports on how a provider achieves critical mass and develops into a major and permanent provider.

These reports will be addressed to the European Commission, to stakeholders and decision makers at national level in e-learning, to providers of e-learning both corporate and academic and to the whole of the e-learning education and training industry.

These reports will provide guidelines on issues of vital importance to the whole field of e-learning:

- how institutions can achieve critical mass in e-learning,
- how e-learning providers can mature from subsidised project status to permanent provision
- how providers can achieve sustainability in provision
- how providers can achieve robustness in provision
- how permanence and success in e-learning can be achieved.

The European Commission has financially supported a great many projects on topics related to the development of e-learning and quality in e-learning. Many of these are referred to in the literature following. There is also literature on '*Sustainability in e-learning*' and '*Robustness in e-learning*'. There appears to be, however, little or nothing on the theme '*Megatrends in e-learning*'. This

indicates that the MegaTrend project concerns a specific niche area of e-learning research where there is very little data published today. XXXX

Sustainability in e-learning

The literature on the sustainability of e-learning approaches is close to the focus of the MegaTrend project. It should be of great concern that much of the online education that has been offered so far has not been sustainable. There are many examples of initiatives, which have initially been supported by external funding and ended when the external funding has stopped. It is therefore important to study programmes that demonstrate sustainability and to understand circumstances and incentives that promote sustainability.

Cost-effectiveness

For institutions that finance activities by student fees one specifically important aspect of sustainability is whether the provision of e-learning is cost-effective. For institutions financed by state or other budget allocations, it is similarly important that e-learning can compete cost-effectively with other types of educational provision. The current development towards large-scale operations entails that it is increasingly important to focus on cost-effectiveness on all levels. It is crucial to establish *efficient and cost-effective infrastructures* that support online education. These include systems and routines for course development, customer relation management, course enrolment, student support, technical support, teacher training and support, examinations, payments, and logistics.

The European CISAER project

(http://www.nettskolen.com/in_english/cisaer/index.html) concluded that there are few institutions that can claim that provision of online courses has been an economic success, if they disregard external research and development grants. At the same time, most of the online courses have had relatively low enrolments. The cost of development and maintenance could be high, and there are many examples of expensive pilot projects that experiment with high-cost, state-of-the-art technology. All this implies that it is necessary to focus much more on how online education could become more cost-effective. This includes a focus on how online courses could handle larger enrolment and prioritizing cost-effective technology and development schemes.

The European Web-edu project

(http://www.nettskolen.com/in_english/webedusite/) also concluded (Paulsen & Keegan 2002) that cost-effectiveness becomes more important as the institutions become large-scale providers of online education. The interviewees had, however, vague knowledge about the system's maintenance and operation costs. The cost and pricing structure for the commercial systems seem to vary from system to system. This fact makes it difficult to compare real costs. Some interviewees in the Web-edu project were concerned about high and increasing prices for the commercial LMS systems.

Teacher workload

Another aspect of sustainability of online education is how use of teacher resources is solved. Online education offers students excellent opportunities for individual communication with their tutors. They can be contacted via e-mail 24 hours a day, 365 days a year. Few learning environments provide equal opportunities for individual access to teachers. It is obvious that online students appreciate always having a personal tutor available. It is the students' dream, but it could soon become a nightmare for the tutors and a large challenge for institutional cost-effectiveness.

It should obviously be the role of the educational management of the institution to decide how much time e-learning tutors have for work online in tutoring and then allocate a certain number of tutoring interventions per student depending on the course enrolment.

Large-scale online education will never become cost-effective until we are able to limit the teacher workload. Therefore, it is extremely important to consider teacher workload, especially during the development of student course activities and assignments that relates directly the amount of tutor involvement in the learning process. The cost of teacher involvement is also a great challenge concerning pedagogical and didactical solutions and learning support.

The CISAER project recommended that one should develop and implement strategies to reduce teacher workload. Further, the major concern arising from Paulsen's thesis research (Paulsen 1998) was how to keep teacher workload at an acceptable level. This concern is becoming more relevant with the introduction of large-scale online provision.

E-standards, Learning Management Systems and Student Management Systems

There is a growing awareness that e-learning standards could improve cost-effectiveness because common standards will support interchangeability and reusability in e-learning.

The most prominent international organizations and projects dealing with e-learning standards are:

- Advanced Distributed Learning Network ([ADLNet](#))
- Sharable Course Object Reference Model (SCORM)
- Aviation Industry CBT Committee ([AICC](#))
- Instructional Management Systems Project ([IMS](#))
- Extensible Markup Language (XML)
- Microsoft's Learning Resource Interchange (LRN)
- IEEE Learning Technology Standards Committee ([LTSC](#))

An example of a national project in this area is *The Norwegian educational technology interoperability project* (www.estandard.no) .

Today, learning management systems provide the most important tools for administration of large-scale online education. The Web-edu project studied experiences with these systems in 113 European institutions. The study revealed that these institutions had experiences with as many as 54 commercial and 35 self-developed systems (Paulsen 2003). The project concluded that introduction of large-scale online education increases the need for integration between LMS systems and student management systems. Unfortunately, the analyses revealed a general lack of such integration. Well-integrated systems will be crucial for cost-effective large-scale online education.

Quality in e-learning

The European Council held in Lisbon 2000 decided on the objective that the EU within 2010 should “... *become the most competitive and dynamic knowledge-based economy in the world...*” Reaching this goal implies a challenging programme for modernisation, not least in education and training systems. The transformation of European education and vocational training systems involves both the development of e-learning as a means to increase quality of learning, as well as a need to increase the quality of e-learning itself. Thus, questions concerning quality assurance on the European scene have become very important. It is an agreed belief in European policy that to reach the ambitious goal of the Lisbon strategy there is a need to actively develop high quality e-learning on all levels in education and training for business and industry.

As a result of the strategic goals of the European Union for education and training the European Commission has established actions and programmes that have supported the development of e-learning and e-learning quality.

European funded projects on e-learning quality

Below is a list of the major recent European funded projects on e-learning quality, and important international, mainly European, and some national organisations working on e-learning quality.

[TRIANGLE](#) ‘... was based on work, which had previously been done in the frame of three European e-learning quality projects: SEEL, EQO and SEEQUEL.

[Supporting Excellence in E-Learning \(SEEL\)](#)

[The European Quality Observatory \(EQO\)](#)

[Sustainable Evaluation Environment for Quality in E-Learning \(SEEQUEL\)](#)

[Quality, Interoperability and Standards in E-learning \(QUIS\)](#)

[Self Evaluation for Quality in E-learning \(SEVAQ\)](#)

[Qual E-learning](#)

[European Quality in Individualised Pathways in Education \(EQUIPE\)](#)

[E-learning Project Exemplo - Elex](#)

[EQUEL – Virtual European Centre in E-Learning](#)

International organisations involved in e-learning quality

[ISO – International Organization for Standardization](#)

[EFQEL – The European Foundation for Quality in eLearning](#)
[EFMD – European Foundation for Management Development](#)
[INQAAHE – International Network for Quality Assurance Agencies in Higher Education](#)
[EADL – The European Association for Distance Learning](#)
[CEN – European Committee for Standardization](#)
[CEDEFOP – European Centre for the Development of Vocational Training](#)

Some national organisations involved in e-learning quality

[ODLQC – The British Open and Distance Learning Quality Council](#)
[NADE – The Norwegian Association for Distance and Flexible Education](#)
[DIN – Deutsches Institut für Normung e. V.](#)
[Groupe AFNOR](#)
[QAA - British Quality Assurance Agency for Higher Education](#)
[eQCheck – QualitE-Learning Assurance Services Ltd.](#)
[DETC – Distanced Education and Training Council \(USA\)](#)

E-learning quality approaches and quality systems

Quality approaches in e-learning can be grouped into four different solutions, *approaches to quality management, best and good practice and benchmarking, certification and accreditation systems, quality competition and awards*. The different solutions have resulted in the development of a great number of different quality management and quality assurance systems in distance education and e-learning developed for different purposes. Some examples are:

EADL/European Association for Distance Learning: Quality Guide (2003)

NADE /Norwegian Association for Distance Education: NADE's Quality Standards for Distance Education ([Norwegian version](#))(2001).

[AFNOR: Code of practice: Information technologies – eLearning Guidelines \(French Code of Practice\)\(2004\)](#)

[ODLQC/ Open and Distance Learning Quality Council: Quality Standards \(2000\)](#)

QAA/Quality Assurance Agency for Higher Education: Guidelines on the Quality Assurance of Distance Learning (1999)

EFMD/European Foundation for Management Development: EFMD CEL (e-Learning Accreditation)

DIN/Deutsche Institut für Normung e.V: PAS 1032-1 Reference Model for Quality Management and Quality Assurance

ISO/ International Organization for Standardization: ISO/IEC 19796-1 Standard on Quality for E-Learning.

Mega Trends in E-learning - Important Factors for Robustness and Sustainability in Online Education

Introduction of online education services on a large scale, obviously introduces numerous technical, economical, administrative, and organizational challenges for an institution. Therefore it is important to study this process and learn from the available experiences. In the same way, it is

beneficial to identify examples of excellence and to make information about these examples easily available to other institutions.

The following is a list of factors that according to our research seems to be important for online robustness and sustainability. The list started as a further development of the factors that were included in the project proposal. The list was discussed and agreed on at the project partner meeting in Barcelona March 2006 and has been finalized according to the discussion. The list is sorted so that related factors are grouped together.

Factors could be hard to measure. The factors are to be used on analyses failures as well.

The list of factors can be seen as the working hypotheses of the project and will be applied for the structured interview guide and in the further analyses of the mega providers. In the further work of the project the factors are developed further into questions for the interview guide.

Contextual factors

1. Market size (depending on country population, language used)
2. Market readiness (penetration, technology infrastructure, broadband availability) to use online technology (differences between countries)
3. Target group acceptance of e-learning (preference, reputation, legislation?)
4. Digital literacy in population
5. National policy (national funding schemes)

Institutional factors

Historical context

1. long history (tradition) of dealing with distance education
2. high competence (tradition) in distance education,
3. evolutionary (step-by-step) development (scalability)
4. continuing research and evaluation related to online education;

Technical issues

5. high competence (qualitative appraisal) in information and communication technology (ICT);
6. based on standard and widely-used technologies; widely-used technologies enables students to apply the software and hardware they have at their disposal with little need to buy and install additional equipment;
7. well integrated ICT systems that support online education;
8. effective administrative systems

Course issues

9. wide range of subjects and levels (attractive to students and lead to employment);

10. wise choice of topics, courses, and programs that are onlineable.
11. flexible student start-up and progression (needs to be explained) (individual start up not permitted if you want a degree in some countries);
12. students' time flexibility leads to asynchronous communication and little focus on synchronous communication technologies;

Management, strategy and attitudes

13. support from top management;
14. enthusiastic employees who believe in online education (little resistance);
15. strategies that support online education and employees that are loyal to the strategy.
16. focus (strategy, control, management) on quality;
17. effective administrative routines
18. some sort of industrialization (division of labour, systemization, automation, rationalization, work flow management, check Otto Peters descriptors);
19. focus on predictable and manageable teacher workload
20. collaboration with other educational institutions;
21. high credibility (formal and informal) with the government and public administration;

Economy issues

22. cost-effective courses (much learning for the money);
23. stable and predictable sources of income from operation of online education;
24. pressure on the necessity to change to stay in business and flexibility to adapt to the changing market;
25. contracts with part-time tutors and course developers (Better wording: flexible employment and use of staff to adapt to changes in markets);

Definition of Mega Provider of e-learning

The MegaTrend project has decided to apply concrete and measurable indicators of the critical mass required for being identified as a European Mega e-learning Provider. The definition involves the following four dimensions:

1. An e-learning system with more than 5000 enrolments per year or
2. an e-learning system with more than 100 courses on offer on any one time.
3. The project focuses only on distance learning situations, which means that that courses should be included only if designed for and aimed at distance (off campus) students and more than 50 percent is provided as e-learning. The provision of some e-learning modules in forms of blended learning by face-to-face institutions for their on-campus students is not the focus of this project.

4. E-learning programmes offered by multinational corporations to their European employees (often from a base in the United States of America) is not a subject of the project.

REFERENCES

CISAER project (http://www.nettskolen.com/in_english/cisaer/index.html)

S. Nipper (1989): "Third generation distance learning and computer conferencing," In: R. Mason and A. Kaye (editors). *Mindweave: Communication, computers and distance education*. Oxford: Pergamon, pp. 53-73.

Paulsen, M. F. (2003): *Online education. Learning Management Systems. Global elearning in a Scandinavian perspective*. Oslo: NKI

Paulsen, M. F. (1998): *Teaching Techniques for Computer-mediated Communication*, Ann Arbor, Mi, UMI Dissertation Services. Pages: 297.

Paulsen, M. F. & Keegan, D. (2002): European Experiences with Learning Management Systems. http://www.nettskolen.com/in_english/webedusite/ (Retrieved 25.8. 2006)

Rekkedal, T. (2006): State of the Art Report on Distance Learning and E-learning Quality for SMEs. Paper prepared for the EU Leonardo project, E-learning Quality for SMEs: Guidance and Counselling, May 2006. http://www.nettskolen.com/in_english/elq-sme/ELQ-SMEStateofArt.pdf (Retrieved 7.6.2006)

Taylor, J. C. (2001): "*Fifth Generation Distance Education*". Keynote address delivered at the ICDE 20th World Conference, Dusseldorf, Germany, 1-5 April. http://www.usq.edu.au/users/taylorj/publications_presentations/5thGenerationDE.doc (Retrieved 8.6.2006)

Web-edu project (http://www.nettskolen.com/in_english/webedusite/)

Bibliography

Presentation

This is a bibliography of Megatrends in e-learning provision

It is divided into five parts:

1. Indicators of robustness in e-learning provision
2. Indicators of sustainability in e-learning provision
3. Quality in elearning
 - Some recent European funded projects on quality in e-learning
 - Organisations involved in e-learning quality activities
 - International organisations
 - National organisations
 - Some examples of quality management in distance education and e-learning
 - Literature on quality in e-learning
4. Indicators of size
5. Institutions which failed to reach targets.

The bibliography is built up from literature in the target languages of the project: English, Spanish, Norwegian, Hungarian and Estonian and a number of the citations are in Norwegian and Hungarian.

In most cases an abstract is provided enabling the reader to evaluate the citation.

In most cases the URL of the citation is provided enabling the reader to access the reference on the WWW and read or download it from the web.

1. Indicators of robustness in e-learning

Robustness - definition:

<http://www.isixsigma.com/dictionary/Robustness-124.htm>

ABSTRACT: The characteristic of the process output or response to be insensitive to the variation of the inputs. Setting the process targets using the process interactions increases the likelihood of the process exhibiting robustness.

AACSB (1999): "Corporate universities emerge as pioneers in market-driven education", *The international Association for Management Education*, Spring, Vol. 29 No. 3.

Comments: Documents based on a survey of Corporate University Future Directions that considers 120 best practices.

Barker, K. (2002): *Canadian Recommended E-learning Guidelines (CanREGs)*. http://www.col.org/newsrelease/CanREGs_Eng.pdf

ABSTRACT: A major book on e-learning guidelines.

Barron, T (2003): *LoD Survey: Quality and effectiveness*.
<http://www.learningcircuits.org/2003/may2003/qualitysurvey.htm>

ABSTRACT: How do e-learning practitioners rate the quality and effectiveness of their e-learning programs? Where are the soft spots among e-learning technologies used by practitioners? How do perceptions of quality and effectiveness of e-learning vary by region? These questions, the subject of much debate as adoption of technology-enabled learning moves from novelty to common business practice, are the focus of a recent study conducted by the Learning on Demand (LOD) program of SRI Consulting Business Intelligence. The 24-question, Web-based survey, conducted with the participation of ASTD and other LoD partners, garnered nearly 350 responses from practitioners around the globe.

Blass, E. (2005): "The rise and rise of the corporate university". *Journal of European Industrial Training*. Vol. 29 No1, pp. 58-74.

Comments: The balance of power in education is changing rapidly; in this new scenario corporate universities have more elements to fight. The UK government is proposing relaxing the regulations on university status which will allow corporate universities which will allow corporate universities to gain degree-awarding powers.

Ehlers, U. (2005): *Quality in e-Learning From a Learner's Perspective*,
European Journal of Open, Distance and E-Learning.
http://www.eurodl.org/materials/contrib/2004/Online_Master_COPs.html

ABSTRACT: When you really get down to analysing it, the promises of E-Learning often have yet to materialize. The question how e-learning can be successful becomes more urgent as we move from an 'early adopter' stage to a more general offering. In the discussion about the best strategy for e-learning it becomes more and more clear that e-learning has to be based on the learner. This includes the necessity to postulate in a clear way that the needs of the learners have to be determined in a concrete manner before starting the project. Important aspects are therefore the awareness of the learning biography, of individual learning preferences and of social needs.

It is important to acknowledge that quality of a learning process is not something that is delivered to a learner by an e-learning provider but rather constitutes a process of co-production between the learner and the learning-environment. That means that the product/outcome of an educational process is not exclusively a result of the production process of an educational institution. Quality therefore has to do with empowering and enabling the learner. It has to be defined at the final position of the provision of the learning-services: the learner. The article describes learners' preferences in e-learning based on empirical results of today's largest survey in this field. It thus facilitates the construction of learner oriented services portfolios in e-learning.

European e-Business Market Watch (2005). Guide to ICT Usage Indicators.
http://www.ebusiness-watch.org/resources/documents/TR01_Indicators_2005_web.pdf

ABSTRACT: This study focuses on issues related to the definition of indicators on ICT use. The report was prepared by empirica GmbH in cooperation with SCIENTER on behalf of the European Commission, Enterprise & Industry Directorate General. It is a deliverable in the context of the e-BusinessW@tch, which is implemented by a team consisting of empirica GmbH (co-ordinating partner), BerleconResearch, Databank Consulting, DIW Berlin, Lios Geal Consultants, RAMBØLL Management and SalzburgResearch, based on a service contract with the European Commission.

Gaasland et al. (2005): Pakkeløsning eller skreddersøm. In: Grepperud et al. (eds.) Til å bli klok av... Et knippe prosjekterfaringer 2004. Tromsø: NorgesUniversitetet.

ABSTRACT: The authors of this article discuss problems concerned with Universities using commercial systems for e-learning instead of developing systems and pedagogy in harmony.

Grepperud et al. (eds.) (2004): Til å bli klok av... Et knippe prosjekterfaringer 2004. Tromsø: NorgesUniversitetet.

ABSTRACT: The book describes and discusses some project experiences in Norwegian universities and university colleges and also gives some examples of robustness and sustainability.

Howell, S. L., P. B. Williams and N. K. Lindsay, (2003): Thirty-two Trends Affecting Distance Education: An Informed Foundation for Strategic Planning, <http://www.westga.edu/~distance/ojdla/fall63/howell63.html>

Comments: This document contains a comprehensive list of references.

Hughes and Attwell (no date): A framework for the evaluation of e-learning. http://www.theknownet.com/ict_smes_seminars/papers/Hughes_Attwell.html

ABSTRACT: E-learning is also one of the areas that attracts the most research and development funding. If this investment is to be maximised, it is imperative that we generate robust models for the systematic evaluation of e-learning and produce tools which are flexible in use but consistent in results. British study by Hughes and Attwell on the importance of robust models.

Intralearn (no date): www.intralearn.com/4010_PR-ama.asp
http://www.intralearn.com/4010_PR-ama.asp

ABSTRACT: "For us to implement e-Learning across all of these campuses, scalability and robustness had to be the key criteria for our e-Learning software platform".

Lepori, B., Chiara Succi, C. (2004): *Universities of Applied Sciences: A New Frontier for eLearning?* in: *New Challenges and Partnerships in an Enlarged European Union – Open, Distance and E-Learning in Support of Modernisation, Capacity Building and Regional Development*, Proceedings of the EDEN 2004 Annual Conference.

Marquardt, M. (1996): *Building a Learning Organisation: A Systems Approach to Quantum Improvement and Global Success*, McGraw-Hill: New York.

ABSTRACT: Best Practices in Learning. Forget theory – here's the first guide to reveal what's really working in the top learning organizations around the world. Building the Learning Organization, by Michael Marquardt, takes the reader inside company walls to discover the groundbreaking techniques that are delivering solid results in organizational transformation – knowledge management – empowerment – performance improvement – and more. Case studies give all the nitty-gritty details, and a complete 17-component learning model based on the guide's research let's the reader use the same world-class techniques in their company.

Melton, R. (2002): *Planning and Developing Open and Distance Learning: A Framework for Quality*.

http://www.amazon.com/gp/product/0415254817/qid=1142517203/sr=1-36/ref=sr_1_36/103-1793501-7154221?s=books&v=glance&n=283155

ABSTRACT: This book is for those who are thinking of setting up, or just starting to run, open and distance learning (ODL) courses. It is a practical guide to all aspects of setting up this type of course. It offers practical advice on how to find your students, expand your audience and become cost-effective without compromising quality,

Oblinger, D. G., C. A. Barone and B. L. Hawkins (2001): Distributed education and its challenges: An overview. American Council on Education.

<http://www.acenet.edu/bookstore/pdf/distributed-learning/distributed-learning-01.pdf>

ABSTRACT: This overview paper identifies significant issues associated with distributed education and suggests a series of questions to help institutional leaders establish and validate their options.

Parchoma, G. (2003): Learner-Centered Instructional Design and Development: Two Examples of Success.

<http://cade.icaap.org/vol18.2/parchoma.pdf>

Psycharis, S. (2005): *Presumptions and actions affecting an e-learning adoption by the educational system, Implementation using virtual private networks*, European Journal of Open, Distance and E-Learning.

http://www.eurodl.org/materials/contrib/2005/Sarantos_Psycharis.htm

ABSTRACT: In this paper the authors present a model of e-learning suitable for teacher training sessions. The main purpose of their work is to define the components of the educational system, which influence the successful adoption of e-learning in the field of education. They also present the factors of the readiness of e-learning mentioned in the literature available and classify them into the 3 major categories that constitute the components of every organization and consequently that of education. Finally, they present an implementation model of e-learning through the use of virtual private networks, which lends an added value to the realization of e-learning.

Schifter, C., L. Greenwood, D. Monolescu, (2004): The Distance Education Evolution: Issues and Case Studies.

http://www.amazon.com/gp/product/1591401208/qid=1142517343/sr=1-44/ref=sr_1_44/103-1793501-7154221?s=books&v=glance&n=283155

ABSTRACT: The Distance Education Evolution: Case Studies addresses issues regarding the development and design of online courses, and the implementation and evaluation of an online learning program. Several chapters include design strategies for online courses that range from the specific to the universal. Many authors address pedagogical issues from both a theoretical and applied perspective. This diverse compilation of contributions by Temple University administrators and faculty gives a comprehensive overview of the distance education experience that can serve as a guide to others interested in providing quality distance education.

Shepperd, C. (no date): The quest for quality.

<http://www.fastrak-consulting.co.uk/tactix/features/quality.htm>

Comment: British article.

Swedish Agency for Networks and Cooperation in Higher Education (2005):
http://www.myndigheten.netuniversity.se/download/3605/x/Programutbildningar_Nilsson_Lindgren_0601.pdf

ABSTRACT: The report presents results from a combined project network and evaluation study on the transformation of campus courses/programmes to Internet based distance learning in ten Swedish higher education institutions. The report covers responses from 14 programmes on development, methodology, cooperation and solutions concerning higher education e-learning programmes. The report concludes with a number of recommendations for successful development and operation of distance learning programmes.

Teichler, U. (1993): "Structures of Higher Education Systems in Europe" in: Gellert, C. (Ed) *Higher Education in Europe, Higher Education Policy Series* (16), London, Jessica Kingsley.

Wilson, B. (2002): "Trends and futures of Education. Implications for distance education". *The Quarterly Review of Distance Education*, Volume 3(1), 2002, pp. 91-103.

ABSTRACT: Article that provides a set of key trends in education and technologies, trends are allocated in the following categories: technologizing of school systems, learner and user centred philosophies, moves to automate instructional design, the digital shift; advances in information technologies, global marketplace, radical forces inspired by global connectivity and changing paradigms of thought in instructional design.

Vines, D. (1998): "Large Scale Distance Learning Initiatives". *Campus-Wide Information Systems*. Volume 15 –number 4, 1998 – pp.137-141.

ABSTRACT: Document about the impact and interactions of distance education quality factors differs when designing large-scale versus smaller-scale distances learning courses. There is a set of quality considerations very relevant for these transitions.

Kodama, M. (2000): "Business innovation through customer-value creation. Case study of a virtual education business in Japan". *Journal of Management Development*, vol 19 No. 1, 2000 pp. 49-70.

ABSTRACT: The article explores the situation of the e-learning in Japan and the possibilities of a niche business considering the value creation based on the knowledge innovation.

Ennew, C. and Fernandez-Young, A. (2006): "Weapons of mass instruction? The rhetoric and reality of online learning". *Marketing Interlligence & Planning* vol. 24 No.2, 2006 pp. 148-157.

ABSTRACT: The purpose of the article is to explore the development of e-learning in the UK higher education as a case study to illustrate the excess of reliance on technology and a wrong marketing analysis.

Eisenbarth, G. (2003): "The online education market". *On the Horizon* 11,3 2003. pp. 9-15.

ABSTRACT: Article about the role of universities in this global scenario with growing educational demands.

Thorpe, M. (1995): "The expansion of Open and Distance learning – A reflection of market forces", *Open Learning*, Vol. 10, No 1, pp. 21-30.

WBT Systems (2006): e-Learning from WBT Systems.
www.wbtscsystems.com/news/release/1682 - 5 Mar 2006.

ABSTRACT: Claim from WBT Systems that their TopClass e-Learning Suite is a robust, easily deployed, web-based e-Learning platform

Wagner, E. (2000): Emerging Technology Trends in elearning.
www.linezine.com/2.1/features/ewette.htm

ABSTRACT: LineZine article by E.Wagner in 2000. 'Good, browsable front-ends, on robust databases full of learning objects'

Some literature in Hungarian

Kovács Ilma (1996): *Új út a távoktatásban?* Budapesti Közgazdaságtudományi egyetem, Felsőoktatási Koordinációs Iroda, Budapest.

Comment: New ways in distance education? written by Ilma Kovács. This book is the first Hungarian monography about DE and e-learning.

E-learning 2005 (2005): (szerk. Dr. Hutter Ottó, Dr. magyar Gábor, Dr. Mlinarics József), Műszaki Könyvkiadó.

Comment: E-learning 2005 (edited by: Dr. Hutter et al.). This book is the first overview exclusively on e-learning: methods, products, suppliers, market. Planned to be a series on yearly basis.

A vállalkozók képzése, vállalkozási ismeretek oktatása EU összehasonlításban és a továbbképzésre (fejlesztésre) vonatkozó javaslatok. Készült a Gazdasági és Közlekedési Minisztérium megbízásából, Budapest, 2005.

Comment: Training entrepreneurs, overview of small business trainings in comparison with EU data, and proposal for development. (Article written to the Hungarian Ministry of Education). http://195.228.157.155/data/359689/Tanulm_jav3v1.pdf

Az informatika oktatási célú alkalmazása. OKI cikkek, tanulmányok.
<http://www.oki.hu/oldal.php?tipus=kulcskeres&kat=sub&kulcs=124&szo=az+informatika+oktat%E1si+alkalmaz%E1sa&fokat=Informatikai+nevel%E9s&fokatid=54>

Comment: The use of ICT for educational purposes. (Article written to the National Institute for Educational Research).

Nemzeti Felnőttképzési Intézet, **Felnőttképzés tudástár** (e-learning releváns cikkek). http://www.nfi.hu/index.php?m=fk_tudastar&p=bibliografiak&menu=7

Comment: Knowledge Base in Adult Education by National Institut for Adult Education

Hain Ferenc - Hutter Ottó - Kugler Judit: Az elektronikus eszközökkel támogatott tanulás (e-learning) mint lehetőség.
= Világosság, 2005. 46/2-3. 3-30.

Comment: Learning supported by ICT as a possibility. Written by Ferenc Hain - Ottó Hutter - Judit Kugler (Article)

Kerekes György: Virtuális szabadegyetem. Felnőttképzés az interneten.
= Felnőttképzés, 2005. 3/1. p. 51-54.

Comment: Virtual Open University. Adult Education on the Internet. Written by György Kerekes. (Article).

Tóth Béláné: Virtuális tanulási környezetek alkalmazása a szakmai tanárképzésben. = Szakoktatás, 2005. 4. p. 16-24

Comment: The use of virtual learning environments in vocational teacher training written by Mrs. Tóth Béla (Article).

Henkey István: Elektronikus tudástranszfer a gyakorlatban.
= Felnőttképzés 2004. 2/3. p. 13-18.

Comment: Electronic knowledge transfer in practice written by István Henkey. (Article).

Horváth Cz. János: Változó ismeretszerzési szokásaink. Elmélkedés az e-learning és az i-learning különbségéről. = Felnőttképzés, 2004. 2/2. p. 43-46.

Comment: Changes in knowledge acquisition habits. Differences between e-learning and i-learning written by János Horváth Cz. (Article).

Komenczi Bertalan: Didaktika elektromagna? Az e-learning virtuális valóságai.
= Új Pedagógiai Szemle, 2004. 54/11. p. 31-49.

Comment: Didactica electromagna? Virtual realities of e-learning by Bertalan Komenczy. (Article).

Kriván Miklós: Nagyvállalati e-learning megoldás a gyakorlatban, avagy konkrét lépések egy virtuális vállalati campus felé.
= Felnőttképzés, 2004. 2/4. p. 45-50.

Comment: E-learning solution for large company needs in practice – specific steps towards a virtual company campus written by Miklós Kriván. (Article)

Szűcs András - Papp Lajos: Bízató kezdet után, egyenletes fejlődés előtt. Nemzetközi tapasztalatok, irányok az elektronikus távoktatásban.
= Felnőttképzés, 2004. 2/2. p. 35-42.

Comment: After an assuring start, towards an even development. International experience, directions in e-learning written by András Szűcs and Lajos Papp. (Article).

2. Indicators of sustainability

Abrioux, D. A. M. X. (Ed) (2001): *Converting to Online Course and Program Delivery: Global perspectives*. International Review of Research in Distance Education. <http://www.irrodl.org/index.php/irrodl/issue/view/10>

Comments: Volume 1 No. 2 2001, of IRRODL was devoted to case studies of institutions transferring from distance education to online course delivery. The case studies included institutions from various parts of the world:

- NKI – Norway, Europe
- Indira Gandhi National Open University – India, Asia
- Athabasca University, Canada, North America
- Deakin University, Australia
- University of South Australia – Australia
- Empire State College – USA, North America

Attwell, G. (no date): *E-learning and sustainability*. <http://www.ossite.org/Members/GrahamAttwell/sustainability/attach/sustainibility4.doc>

ABSTRACT: A 65 page study by G.Attwell for the University of Bremen.

Sustainability can be approached from a number of different viewpoints. It could be of ways to ensure new reforms and initiatives are sustainable, it could be about ways to change practice or it could – certainly in the context of e-learning, look at the sustainability of investment in infrastructure.

In this study I will focus on five aspects of sustainability. These have been selected because they are central to the sustainability of a culture and community of e-learning practice and to a pedagogy of e-learning for users or learners.

1. Sustainability of learning platforms and learning software.
2. Sustainability of institutional responses to the use of e-learning.
3. Sustainability of e-learning materials development.
4. Sustainability of pedagogic approaches.
5. Sustainability of teacher and trainers skills.

One of the major problems in addressing these issues is the speed of development and change. This is partly due to rapid technological development but is also due to the high level of innovation in practice and implementation of e-learning. This is much evidence to suggest that the results of research and innovation in e-learning are not being effectively or adequately disseminated with problematic consequences for change strategies. Equally evidence suggests few institutions have adequate policies and strategies for e-learning or for change management in this area. The rapid pace of change is also making policy formation and implementation difficult. In dealing with the different aspects of sustainability it is necessary to approach the issues from both the micro and institutional viewpoint and from a macro policy perspective. For policy to be effective it requires changes in practice. Equally effective practice has to be generalised to develop sustainable responses to the challenge of e-learning.

As will be apparent from this approach, I see the issue of sustainability as being much wider than being merely the cost and maintenance of procuring and developing learning infrastructures and materials. The sustainability of e-learning hinges on social processes and organisation and on the context and purpose of learning, as much as it does on hardware and software.

Bates, T. (2005): *Impact of emerging technologies on government and institutional policy-making*. A presentation at the OECD/Canada/Alberta Conference on e-Learning in Post-Secondary Education, 2005.

<http://www.education.gov.ab.ca/oecd2005/Presentations/OECD%20Tony%20Bates.ppt#383,16,References>

Bates, A. W. (1995): *Technology, Open Learning and Distance Education*, 1995 Routledge, London, Second Edition.

Charlier, B., Platteaux, H., Bouvy, T., Esnault, L., Lebrun, M., Moura, A., Pirotte, S., Denis, B., Verday, N. (date unknown) Stories about innovative processes in higher education: some success factors.

http://www.unifr.ch/didactic/IMG/pdf/quel_article_successfactors.pdf

Corcoran P.B. & Wals A. (2004): *Higher Education and the Challenge of Sustainability*. Kluwer Academic Publishers.

Comments: Book related to the sustainability term, the following dimensions are developed; problematics, a philosophical framework, the evaluation, and the practical dimension.

Cross, J. & Dublin, L. (2002): *Implementing E-learning*. ASTD.

Comments: Book related to the strategy dimension of e-learning, developing concepts such as organisation, marketing fundamentals, plans, etc.

Csekő, K., Ollé, J. (2005), *Efficiency Measures of Differentiated On-Line Learning Environments: The Conclusions of a Research*, in: Lifelong E-Learning – Bringing e-learning close to lifelong learning and working life: a new period of uptake, Proceedings of the EDEN 2005 Annual Conference.

Curran, C. (1993): *Scale, cost and quality in small distance teaching universities*. Paper submitted for the COSTEL Workshop in Copenhagen, Denmark, 11-12 January 1993. Dublin: National Distance Education Centre, Dublin City University.

Davies, G. (Editor), Elizabeth Stacey, (2003). *Quality Education @ a Distance* (IFIP International Federation for Information Processing).

http://www.amazon.com/gp/product/1402075685/qid=1142517343/sr=1-45/ref=sr_1_45/103-1793501-7154221?s=books&v=glance&n=283155

Book Description: This book considers several aspects of providing quality education at a distance:

- Quality of systems that support online learning, quality support infrastructure, quality of technical access and support, materials distribution; issues in each of these areas are considered.
- Quality of teaching and learning experiences, including a range of institutional projects using online technologies and issues of quality provision as well as areas of current and needed research.
- Measuring quality - evaluation and assessment looks at recent research in working towards sustainable quality learning by considering quality evaluation as a collective process.
- Administration and policy to support quality education @ a distance including institutional approaches to assuring quality and identification of differing perspectives for consideration.

Dill, D. D. (1997): "Higher Education markets and public policy". *Higher Education Policy*, Vol.10, No3/4, p. 167-185.

Comments: Markets and public policy, trends in Spain, Japan, Netherlands, Chile, US, Australia and Britain

Dood, J. (1981): *The Credibility of Distance Education*, DERG paper (1), (Mono) Milton Keynes, the Open University, Distance Education Research Group.

EDEN Conference on Lifelong e-Learning 2005

<http://www.eden-online.org/contents/conferences/annual/Helsinki/Keynotes/Wurzburg.ppt>

ABSTRACT: What do we mean by sustainable investment?

Ehlers U. D. & Pawlowski, J. M. (Eds.): To be published in June 2006. Handbook on Quality and Standardisation in E-Learning.

http://www.amazon.com/gp/product/3540327878/sr=8-1/qid=1143033367/ref=sr_1_1/002-7568135-2334455?%5Fencoding=UTF8

Book Description: Quality and standardisation in E-learning have become crucial success factors for organisations in learning, education and training: E-Learning has changed from an 'early adopter' stage to an integrated part of learning scenarios leading to major changes in educational organisations towards quality orientation. For building a knowledge society, it is critically important to thoroughly understand quality and standards in e-learning. The handbook provides a cross-national perspective on these issues and draws a clear picture of the situation in quality development and standardisation. It covers topics of a rather foundational nature in quality and standardisation research as well as descriptions of quality approaches, instruments, standards, experiences and best practices. The Handbook is directed to learners, professionals, researchers and policy makers – people creating the next generation of learning.

ElearningEuropa: Education quality improvement by elearning technology

http://www.elearningeuropa.info/index.php?page=doc_print&doc_id=6998&doc_lng=6

ABSTRACT: Ensure sustainability of e-learning efforts (and results of this project), by establishing continuous and reliable lines of support to university units and faculty, willing to implement e-learning technology

Elloumi, F. Value Chain Analysis: A Strategic Approach to Online Learning. In Anderson, T. & Elloumi, F. (2004): *Theory and Practice of Online Learning*. Athabasca University. http://cde.athabascau.ca/online_book/ch3.html

Fretland, J. O. & D. R. Ramstad (2005): The Norwegian model for innovation and learning through interaction between higher education and working life. <http://www.ignou.ac.in/icde2005/Keynote/Jan%20Olav%20Fretland.pdf>

Comments: The Norwegian Opening Universities is presented in a paper at the ICDE Conference in New Dehli 2005.

Gaither, G. H. (ed.) (1996): *Performance Indicators in higher education. What works, what doesn't work, and what's next?* The Texas A&M University System.

Gibson, C. C. (1998). Distance Learners in Higher Education: Institutional Responses for Quality Outcomes.

http://www.amazon.com/exec/obidos/tg/detail/-/1891859234/qid=1142516725/sr=1-4/ref=sr_1_4/103-1793501-7154221?v=glance&s=books

Book Description: This book focuses on the learner and the conditions for learning, and is essential for those who need to stay current in this rapidly changing area.

Hara, N, & Kling, R. (1999). Students' Frustrations with a Web-Based Distance Education Course. First Monday, volume 4, number 12 (December 1999). http://firstmonday.org/issues/issue4_12/hara/index.html

Abstract: This article presents a qualitative case study of a Web-based distance education course at a major U.S. university. The case data reveal a taboo topic: students' persistent frustrations in Web-based distance education. The paper analyzes why these negative phenomena are not found in the literature. Second, this article will discuss whether students' frustrations inhibit their educational opportunities. In this study, students' frustrations were found in three interrelated sources: lack of prompt feedback, ambiguous instructions on the Web, and technical problems. It is concluded that these frustrations inhibited educational opportunities. This case study illustrates some student perspectives and calls attention to some fundamental issues that could make distance education a more satisfying learning experience.

Jaishree, O. & Manicas, P. T. (2002): *Globalization and higher education*. Mple-Vail Book Manufacturing Group.

Comments: The included contents treats the role of corporate and traditional universities and the Internet in the era of globalization, the second part is devoted the future of universities.

Kayte O'Neill, K., G. Singh and O'Donoghue (2004): Implementing eLearning Programmes for Higher Education: A Review of the Literature. <http://jite.org/documents/Vol3/v3p313-323-131.pdf>

Comments: This paper is a consideration of the issues associated with the infrastructural aspects, pedagogic considerations and the need to associate the usefulness of technology to enhance the learning experience.

Keller, G. (1999): *The new importance of strategic management at universities*. Estratègies per avançar, Barcelona, UPC.

Koumi, J. (2005): *Pedagogic design guidelines for multimedia materials: a mismatch between intuitive practitioners and experimental researchers*, European Journal of Open, Distance and E-Learning, http://www.eurodl.org/materials/contrib/2005/Jack_Koumi.htm

ABSTRACT: This paper argues that pedagogic efficacy for multimedia packages cannot be achieved by experimental or by summative research in the absence of a comprehensive pedagogical screenwriting framework. Following a summary of relevant literature, such a framework is offered, consisting of micro-level design and development guidelines. These guidelines concentrate on achieving pedagogic synergy between audio commentary and visual elements. The framework is grounded in the author's experience of producing multimedia packages at the UK Open University.

Lau, L. (2000): *Distance Learning Technologies: Issues, Trends and Opportunities*. Idea Group Publishing.

Comments: The themes treated into the constructivist approach are, the evaluation, change management, strategic planning and project management, alliances and key successful aspects.

Macdonald, J. (2005): *A Recipe for Success? A Survey of Blended Teaching Strategies in Europe and Australasia*, in: Lifelong E-Learning – Bringing e-learning close to lifelong learning and working life: a new period of uptake, Proceedings of the EDEN 2005 Annual Conference.

Marginson, S. (1995): "Markets in education: a theoretical note", *Australian Journal of Education*, 39 (3): pp. 294-312.

Massy, W.F. (1993): "On Values and market Forces". *Policy Perspectives*, vol. 5, no 1, Section B, pp. 14-16.

Merrienboer, J. V., W. Jochems, R. Koper (2004): *Integrated E-Learning: Implications for Pedagogy, Technology and Organization*. 212 pages.

Michaelson, R. (2003): *The Challenge of Change: reducing conflict in implementing e-learning*.

<http://ewic.bcs.org/conferences/2003/2ndlege/session3/paper1.pdf>

Miller, D. (2002): *Is e-Learning Sustainable?*

www.virtualcampus.ch/docs/seminar_dec_2002/slides_miller.pdf

ABSTRACT: Can e-learning be sustainable?

Mora J. (2002): "Indicadores para la información, la gestión y la financiación de las universidades". En M. Kisilevsky (Ed.) *Nuevas miradas sobre la Universidad*. EDUNTREF, Buenos Aires, pp 15-34. 2002.

Comments: Article that offer a set of indicators in order to assurance the management and finances of universities, these indicators are distributed into the labels, changes in the external funding criteria, the market, the evaluation, organizational changes and strategic management.

Nilsson, J. O., Nilsson, K. (2004): *Old Universities in New Environments: New Technology and Internationalisation Processes in Higher Education*, in *New Challenges and Partnerships in an Enlarged European Union – Open, Distance and E-Learning in Support of Modernisation, Capacity Building and Regional Development*, Proceedings of the EDEN 2004 Annual Conference.

S. Nipper (1989): "Third generation distance learning and computer conferencing," In: R. Mason and A. Kaye (editors). *Mindweave: Communication, computers and distance education*. Oxford: Pergamon, pp. 53-73.

Abstract: One early paper on the development of online learning characterizing distance education into generations of systems – defining online learning (computer conferencing) as the third generation.

Nixon, J. & Helms, M. (2002): “Corporate universities vs. higher education institutions. *Industrial and Commercial Training* volume 34 – Number 4 – 2002 – pp. 144-150.

Comments: Article about the reasons why corporate universities have positive factors that permit a rapid growth. Besides that, a comparative within traditional universities is also available in terms of challenges, costs, and possibilities. It is remarkable the provision of some top examples around the world.

O'Donnell, C. M., Sloan, D. J., Mulholland, C. W. (2006): *Evaluation of an Online Student Induction and Support Package for Online Learners*, European Journal of Open, Distance and E-Learning, http://www.eurodl.org/materials/contrib/2006/Catherine_M_O_Donnell.htm

ABSTRACT: This paper describes an evaluation of an online Student Induction and Support Package used to prepare both face-to-face and fully online students for learning online. It provides an overview of two components of the Package, the Primer and Survival Guide. It details the type and the nature of the student feedback requested via an online questionnaire and presents the results obtained.

Key findings suggest that using the same online Induction and Support Package for both face-to-face and fully online students is effective. Results also suggest that even those who self-report high levels of IT literacy prior to commencing a course of online study, can still benefit from completing such a Package.

A rationale for using an online Student Induction and Support Package and some possibilities for future research are also discussed.

Ortner, G (1999): *Socio-economics of virtual universities. Experiences from open and distance higher education in Europe*. Beltz.

Comments: Compilation of articles dealing with the existing scenarios in Europe for ODL higher education; government roles, social costs, development of supply and demand, economic efficiency of ODL and traditional institutions, targets demands...It is also relevant the description of some top institutions.

Paulsen, M. F. (1998): *Teaching Techniques for Computer-mediated Communication*. Ann Arbor, Mi, UMI Dissertation Services.

Paulsen, M. F. and D. Keegan (2002): *European Experiences with Learning Management Systems*. http://www.nettskolen.com/in_english/webedusite/index.html

Paulsen, M. F. (2002): [Online Education Systems in Scandinavian and Australian Universities: A Comparative Study](#). *The International Review of Research in Open and Distance Learning*. Volume 3, Number 2.

Peters, O. 1967. *Das Fernstudium an Universitäten und Hochschulen*. Weinheim: Beltz.

Peters, O. 1998. *Learning & Teaching in Distance Education*. London: Kogan Page.

Rekkedal, T. 2001. [The NKI Internet College Based on 30 Years of Research in Distance Education](#). ICDE Prize Lecture. NADE/ICDE Conference, Holmenkollen Park Hotel, December 2001.

Rosenberg, M. (2001). E-Learning: Strategies for Delivering Knowledge in the Digital Age. http://ifets.ieee.org/periodical/6_3/11.html

Book review: The book is speckled with anecdotal glimpses supplied by leading training professionals who share their successful and sometimes not-so-successful encounters in leading organizations on an online learning journey.

Rossett, A. (no date): *The ASTD e-Learning Handbook : Best Practices, Strategies, and Case Studies for an Emerging Field*.
http://www.amazon.com/gp/product/007138796X/ref=sib_vae_dp/103-1793501-7154221?me=ATVPDKIKX0DER&no=283155&st=books&n=283155

Book Description: The ASTD handbook confronts challenges, and provides straightforward hands-on solutions for every important aspects in e-learning.

SEEQUEL project - *Sustainable Environment for the Evaluation of Quality in E-Learning project*
www.education-observatories.net/seequel/partners

ABSTRACT: Development of a sustainable market for e-learning content and the development of co-operation with all relevant partners in the VET arena on eLearning. The SEEQUEL - Sustainable Environment for the Evaluation of Quality in E-Learning - project originates from the joint initiative of the e-Learning Industry Group (eLIG) and of a number of European expert organizations and associations at all levels of education and training, coordinated by the MENON Network. It therefore brings together, in a fundamental way, the companies in the e-learning industry who provide the tools and services, the users, the expert organizations and agencies. In order to define a cohesive, inclusive and robust approach to the Quality in the implementation and use of e-Learning systems and processes, the SEEQUEL project aims at taking the required step to establish a European "eLearning Quality" Forum

Schönwald, T. (2003): *Sustainable implementation of E-Learning as a change process at universities*.
<http://www.scil.ch/publications/docs/2003-12-online-educa-schoenwald.pdf>

ABSTRACT: Schönwald in 2003 identified 5 dimensions for a sustainable implementation of eLearning

Scienter (2000): *Socrates ODL/Miverva Dissemination Guide. The Sustain project*. Available in <http://www.sustain.odl.org/Guide-Gen2000.pdf>

Comments: In the frame of the Sustain Project, a guide in order to orientate about sustain was done. An explanatory approach to the term is provided, besides that the guide is divided into two parts; the first one is dedicated to identify the characteristics of the environment, to develop the feasibility of actions oriented towards dissemination and sustainability, to utilise scenarios on future developments and to implement and assess actions. The second part

contains practical information on SOCRATES/MINERVA National Agencies, and relevant initiatives in ODL.

Støkken et al. (2002): Mange bekker små... Evaluering av arbeidet med SOFF-støttede fjernundervisningsprosjekter.

Comments: Evaluation of the Norwegian "Sentralorganet for Fjernundervisning på universitets- og høgskolenivå". After 10 years of operation the Norwegian body for distance education in higher education was evaluated by a Nordic evaluation committee. The results are presented in the report.

Swedish Net University (2005): Rapport 2005:48 R:Uppföljning av Sveriges nätuniversitet. Slutrapport 1: Myndigheten för Sveriges nätuniversitet.
<http://web2.hsv.se/publikationer/rapporter/regeringsuppdrag/2005/0548R.pdf>

Evaluation of the Swedish Net University: The Swedish Net University (Nätuniversitetet) was established 2002 as a coordinating organisation for e-learning/distance education by Swedish Universities and university colleges. Thus the Nätuniversitetet was not a separate and new distance teaching university, but a coordinating and financing body. During the first year the institutions offering distance education received considerable additional financing for their operations, in fact 45.000 SKr per full-year registered student plus 45.000 SKr for a full-year completion. Totally over 3 years 470 mill extra SKr was funded for distance education courses offered by higher education institutions in Sweden. In 2005 the authorities decided to evaluate the operation of the body and results of the efforts and established a Nordic evaluation group.

One conclusion is that many supported projects ends when funding is completed.

Taylor, J. C. (2001): "*Fifth Generation Distance Education*". Keynote address delivered at the ICDE 20th World Conference, Dusseldorf, Germany, 1-5 April. http://www.usq.edu.au/users/taylorj/publications_presentations/5thGenerationDE.doc (Retrieved 8.6.2006)

Abstract: Since its inception, distance education has been at the forefront of adopting new technologies to increase access to education and training opportunities. Distance education operations have evolved through the following four generations: first, the Correspondence Model based on print technology; second, the Multi-media Model based on print, audio and video technologies; third, the Telelearning Model, based on applications of telecommunications technologies to provide opportunities for synchronous communication; and fourth, the Flexible Learning Model based on online delivery via the internet. Although the latter approach is still gaining momentum, as we approach the new millennium, there is already emerging the fifth generation of distance education based on the further exploitation of new technologies. The fifth generation has the potential to decrease significantly the cost of online tuition and thereby increase significantly access to education and training opportunities on a global scale. Through the application of automated response systems, which entail the use of software that can scan the text of an incoming electronic message and respond intelligently- without human intervention, the fifth generation of distance education (the Intelligent Flexible Learning Model) will deliver a quantum leap in economies of scale and associated cost-effectiveness.

Taylor, B. E. & Massy, W. F. (1996): *Strategic indicators for higher Education*. Princeton, Peterson's.

Teixeira, P., Jongbloed, B., Dill, D. D. & Amaral, A. (2004): *Markets in Higher Education*. Kluwer Academic Publishers.

Comments: Book centred in markets with interesting chapters about efficiency, costs, transparency, regulation, models, and the cases of the US, Canada, Australia, UK, Netherlands, Portugal and France within this thematic.

The Natural Step (2006): *Sustainability*.

http://www.naturalstep.ca/SBNS_FINAL_Jan302006/SBNS_Introduction.htm

ABSTRACT: This online Canadian e-learning course on Sustainability: Step by Natural Step, developed by The Natural Step provides sustainability education

Trindade, A.R. (1993): "Adjusting supply to demand", *EADTU news*, issue 15, December 1993, pp. 23-25.

Valenti, S., Leo, T. (2004): *Sustainability of E-Learning for Universities*, in: New Challenges and Partnerships in an Enlarged European Union – Open, Distance and E-Learning in Support of Modernisation, Capacity Building and Regional Development, Proceedings of the EDEN 2004 Annual Conference.

Wild, F. (no date): Revenue models for e-learning at Universities.

[w.educanext.org/ubp/PUSH/ search@srchDetailsLR?lrID=lr-wuw-wild-1096881150965](http://w.educanext.org/ubp/PUSH/search@srchDetailsLR?lrID=lr-wuw-wild-1096881150965)

ABSTRACT: F Wild of the Wirtschafts Universitaet Wien on the sustainability of e-learning projects at universities.

Some literature in Hungarian

Digitális tananyagfejlesztés (2005): kevés a szakember, hiányzik a koordináció.

http://www.hte.hu/kiadvanyok/hirlev2005/hirlevel_2005maj14.html

Comment: Digital learning material development: lack of experts, lack of coordination. (Article in digital newsletter)

3. Quality in e-learning

Some Recent European Funded Projects on Quality in E-Learning

The EU Commission has put great emphasis on stimulating the development of e-learning in Europe. The [eLearning Programme](#) is seeking the effective integration of ICT and in education and training systems in Europe. Quality projects in e-learning have also been supported by other EU programmes in education and training. Some of these are briefly presented below.

TRIANGLE '... is based on work, which has previously been done in the frame of three European e-learning quality projects: SEEL, EQO and SEEQUEL. ... They all have done thorough research in the field of quality in e-learning, established each a network of European actors and developed tools and concepts on each of their fields of practice.

In particular they focussed on the following activities:

- *European Quality Observatory (EQO)*: Development of a quality observatory in the frame of a European portal for quality (www.eqo.info),

- *Supporting Excellence in E-Learning (SEEL)*: Development of a toolset of guidelines and benchmarks for elearning- regions as well as a network of Excellence Centres,
- *Sustainable Evaluation Environment for Quality in E-Learning (SEEQUEL)*: Development of the European E-Learning Quality Forum (http://cedefop.communityzero.com/elearning_forum) for dialogue and exchange in connection with the Quality Laboratory, an environment able to transform quality needs into plans for action.' (Triangle 2004)

The European Quality Observatory (EQO) developed and still improves a framework in order to harmonize the variety of different approaches. It is shown how a European or global quality standard based on consensus processes in a community can lead to a harmonized model. Secondly, support functions are implemented to support organizations, enterprises and individuals.

- The main objective is to provide a comprehensive platform for developers, managers, administrators, decision makers and end-users to find a suitable quality approach that fits their needs. EQO provided conceptual framework for the description and harmonization of quality approaches, [EQO Model](#) (EQO n.d.).

The project has published a comprehensive survey on the use and dissemination of approaches in European e-learning (Ehlers et al. 2005).

Supporting Excellence in E-Learning (SEEL) run by [EIFL \(European Institute for E-learning\)](#) is a project dedicated to the quality in eLearning, taking the point of view of a learning territory: what does quality mean for a learning region (or city) becoming an eLearning region (or city). In the framework of the project, an eLearning territory (region or city) is described as a territory using knowledge, information and learning technologies (KILT) to value all its assets, individual, organisational, industrial, cultural, patrimonial, social etc.

Sustainable Evaluation Environment for Quality in E-Learning (SEEQUEL) coordinated by the [MENON Network](#) aimed at taking the required step to establish a European "eLearning Quality" Forum to address the following issues:

- Quality assessment, evaluation and conformance practice;
- Cases of "good practice" and design guidelines;
- Quality assurance frameworks (with criteria and standards).

The TRIANGLE project had a main aim of establishing the **The European Foundation for Quality in eLearning (EFQEL)** that was founded in 2005 and as such realising one main aim of the TRIANGLE and the three other above-mentioned projects.

The EFQEL wishes to serve as sustainable and proactive network and provide **valuable services** to the European e-learning community. It will also

provide **support, transparency, open participation and leadership** for a broad range of topics. The purpose of the foundation is to **involve actors** in a European community of users and experts to **share experiences** on how eLearning can be used to strengthen individual, organisational, local and regional development, digital and learning literacy, and promote social cohesion (EFQEL 2005).

[Quality, Interoperability and Standards in E-learning \(QUIS\)](#) directs its activities towards quality in e-learning, interoperability and reusability of e-learning materials and development of standards. The project also looks at cost effectiveness in e-learning. The project takes its starting point in the need for cooperation between higher education institutions in Europe and the importance of being able to exchange both learning materials and learning practices. To establish joint study programs it is considered essential that cooperating institutions accept each other's quality assurance systems (QUIS n.d.). The QUIS project has also developed a project specific quality assurance system (Komáromi et al. 2004).

[Self Evaluation for quality in e-learning \(SEVAQ\)](#) is located within the framework of the [Leonardo da Vinci Programme](#). The project goals are to improve the quality of the vocational and educational courses that are offered through open and distance learning, e-learning and blended learning, and to provide in a number of good practices concerning quality and provide in a multi-functional self-evaluation questionnaire in order to obtain valuable client feedback (SEVAQ 2005)

[Qual E-learning](#) has produced a handbook on best e-learning practices based on analysis of training courses offered on different platforms and on viewpoints of e-learning experts. The handbook (Qual E-learning 2004) is detailing best practices in order to establish which ones are guaranteeing the best services for e-learners (Qual E-learning 2004)

[European Quality in Individualised Pathways in Education \(EQUIPE\)](#) is aimed at developing, promoting and testing quality assurance and quality enhancement tools in life long learning for adults in Europe. As such the project is not directed specifically towards e-learning and distance education. However, as life long learning also depends on innovative pedagogy and forms of teaching and learning, quality in learning with ICT is part of the project (EQUIPE n.d.).

[E-learning Project Exemplo - Elex](#) main aim was to exploit the potential of the communities of practice within a wide association, [The European Vocational Training Association \(EVTA\)](#) using the digital communication tools to support the team work and trying to maximize the dissemination and re-use at a European level of selected best practices of e-learning and ICT utilization in the vocational training frame. Among other products the project produced a report on e-learning quality presented selected examples of good practices (EVTA 2005).

[**EQUEL – Virtual European Centre in E-Learning**](#) is coordinated by Lancaster University in the UK. The project involves key researchers and e-learning practitioners from 14 European higher education institutions. EQUEL stands for 'e-quality in e-learning' and is a virtual centre of excellence for innovation and research in networked learning in higher and post-compulsory education. The aim of EQUEL is to foster European knowledge and understanding of the effects of e-learning practice, theory and philosophy through building a research and practitioner network of experts working in the field. The centre plans to offer a range of consultancy and evaluation services based on the tools and methods developed by its members for conducting research and evaluating networked learning initiatives and courses.

Organisations Involved in E-Learning Quality Activities

International organisations

[**ISO – International Organization for Standardization**](#) is engaged in standardization systems including quality assurance and quality certification and has entered to e-learning field by issuing the ISO/IEC 19796-1:2005 Information technology - Learning, education and training - Quality management, assurance and metrics.

[**EFQEL – The European Foundation for Quality in eLearning**](#) organises a large number of European actors, institutions and organisations, in the field of education, training, open and distance learning and e-learning.

[**EFMD – European Foundation for Management Development**](#) Is a network organisation for management and business education, and has developed a certification scheme also for certification of e-learning programmes, the EFMD CEL E-Learning Accreditation.

[**INQAAHE – International Network for Quality Assurance Agencies in Higher Education**](#) With the purpose of collecting and disseminating current and developing theory and practice in the assessment improvement and maintenance of quality in higher education. It has developed quality guidelines for the work of the Quality Assurance Agencies.

[**EADL – The European Association for Distance Learning**](#) is an organisation with members mainly coming from the private distance education sector. The organisation developed already in 1994 its Quality Guidelines to improve the quality of distance learning institutes in Europe. The guide has been revised in the light of e-learning developments.

[**CEN – European Committee for Standardization**](#) promotes voluntary technical harmonisation in Europe in conjunction with worldwide bodies and its partners in Europe. The CEN/ISSS (Information Society Standardization System) has the main aim of contributing to the success of Information Society of Europe.

CEDEFOP – European Centre for the Development of Vocational Training established in 1975 is a European agency that helps promote and develop vocational education and training in the European Union (EU). It is the EU's reference centre for vocational education and training. The centre provides information on and analyses of vocational education and training systems, policies, research and practice. CEDEFOP maintains that quality assurance is a prerequisite for ensuring a better return on investment and more efficient and attractive VET systems and supports the development of quality in vocational training and e-learning.

National organisations

ODLQC – The British Open and distance Learning Quality Council runs since 1969 a voluntary accreditation scheme. The council is open for all providers of home study, distance learning, online or e-learning and other open learning or flexible learning courses, as long as they meet the standards.

NADE – The Norwegian Association for Distance and Flexible Education was a pioneer in quality assurance when developing the first edition of the NADE Standards for Distance Education as a support for member institutions to develop their own quality assurance systems according to the requirements of the Adult Education Act of 1993.

DIN – Deutsches Institut für Normung e. V. represents German interests in International standardisation activities. It has issued the PAS 1032-1 on quality management and quality assurance in e-learning.

Groupe AFNOR is the French organisation for standardisation with a main aim of strengthening the international and European dimension of French standardisation. It has in cooperation with the French Forum for Open and distance Learning issued the Code of Practice – Information Technologies e-Learning.

QAA - British Quality Assurance Agency for Higher Education is working to ensure the public interest in sound standards of higher education by working with higher education institutions to encourage continuous improvement in management, to define standards and carry out and publish reviews according to the standards. QAA has also published quality guidelines for quality assurance in distance learning.

eQCheck – QualitE-Learning Assurance Services Ltd. is a British registered firm working in cooperation with a Canadian company offering assessment and certification of e-learning products and services. The quality assessment is based on CanReg Consumers guide to E-Learning (Future Ed. 2002).

DETC – Distanced Education and Training Council (USA) Although based in the US, the organisation should be mentioned as it has run its accreditation

scheme for over 50 years. Institutions also outside the US may apply for accreditation.

Some examples of quality management systems in distance education and e-learning

The first system was developed by [EADL](#), one European organisation mainly organising private institutions, the second, 'Quality Standards for Distance Education', was developed by [NADE](#) as support for the members' own quality assurance work, while the third 'French Code of Practice' was developed by [AFNOR](#), the French Standardisation Group. The fourth example is the Quality Standards developed in connection with the voluntary accreditation scheme among distance teaching institutions in the UK by the [ODLQC](#). The fifth example was developed by the [QAA](#) in the UK. The sixth example is the specific accreditation system for e-learning and distance education offered by the [EFMD](#), while the next is PAS 1032-1 recently developed by [DIN](#) in Germany. The final example is the most recent model developed by [ISO](#) in an attempt to standardise approaches to e-learning quality management and quality assurance internationally.

1. *EADL/European Association for Distance Learning: Quality Guide (2003)*
2. *NADE /Norwegian Association for Distance Education: NADE's Quality Standards for Distance Education (2001) (Ljoså & Rekkedal 1993).*
3. *AFNOR: Code of practice: Information technologies – eLearning Guidelines (French Code of Practice)(2004)*
4. *ODLQC/ Open and Distance Learning Quality Council: Quality Standards (2000)*
5. *QAA/Quality Assurance Agency for Higher Education: Guidelines on the Quality Assurance of Distance Learning (1999)*
6. *EFMD/European Foundation for Management Development: EFMD CEL (e-Learning Accreditation*
7. *DIN/Deutsche Institut für Normung e.V: PAS 1032-1 Reference Model for Quality Management and Quality Assurance*
8. *ISO/ International Organization for Standardization: ISO/IEC 19796-1 Standard on Quality for E-Learning*

Generally, the systems with resulting documents take their starting point in general views of quality management from business and industry and make an effort to integrate these with the specific aspects of education and specifically open and distance learning. The documents stress 'self appraisal', regular and systematic review of the organisation's activities and results, as one main method to discern strengths and weaknesses as the basis for continuous improvements.

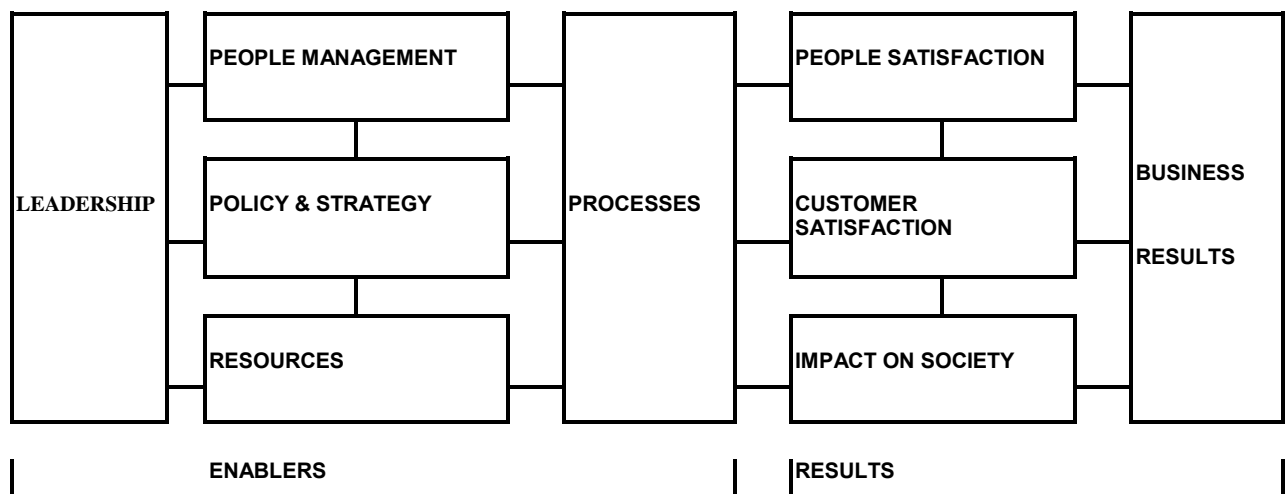
EADL Quality Guide

The EADL Quality Guide (2003) was developed by the *EADL Research and Development Committee* with support from the EU. The aims of the project were to:

- offer a sound base for quality assessment and improvement for private distance education institutions

- to give a satisfactory quality guarantee for distance education, especially for European SMEs
- to improve the status and image of private distance education institutions in Europe

The theoretical foundation for the work was taken from *'The Total Quality Management System'* provided from the European Foundation for Quality Management (1992). In this model the processes are the means by which the organisation harness and releases the talents of its people to produce results. These processes and the people are the *'enablers'* which provide the *'results'*. Graphically the model is presented like this:



“Essentially the model tells us that:
Customer satisfaction, People (employees) Satisfaction and Impact on Society
 are achieved through
Leadership driving
People Management, Policy and Strategy, Resources and Processes,
 leading ultimately to excellence in
Business Results” (EFQM 1992 p 3).

“Each of the nine elements shown in the model is a criterion that can be used to appraise the organisation’s progress towards Total Quality Management. The Results aspects are concerned with *what* the organisation has achieved and is achieving. The Enablers are concerned with *how* are being achieved. The objective of the comprehensive quality management self-appraisal and self-improvement programme is to regularly review each of these nine criteria and, thereafter, to adopt relevant improvement strategies” (ibid. p 3).

The EADL Guide describes the relevant areas for distance education within each of the elements and defines how each area might be handled in the organisation. In this connection 4 stages or levels can be defined:
Stage 1. Short-term orientation

Stage 2. Formulated product requirements

Stage 3. Effective use of internal expertise

Stage 4. Continuous improvement and interaction with the environment

The guide has specifically defined the 'core processes' of a distance teaching institutions as:

Pre-enrolment Practises

Enrolment and Contract Practises

Product management Practises

Tutorial Practices

Counselling Practises

Examinations

Face-to-face teaching

Tele-teaching

Other Practises

Guidelines for Quality Standards in the Norwegian Association for Distance Education

After the public regulation of distance education in independent institutions was integrated into the Norwegian Adult Education Act, effective 1st January 1993, the responsibility for ensuring quality was delegated to the individually approved distance education institutions. NADE was requested by the Ministry to prepare guidelines for quality standards in distance education.

In the documents related expressed responsibility for quality assurance as follows:

- Quality assurance, follow up and control should be concerned with the total educational programme (learning material, teaching, guidance and follow up).
- A course or an educational programme should be implemented according to a syllabus that is determined and described beforehand.
- Requirements must also be made of the marketing. Since the schools' own advertisements and course descriptions are often the only information that the prospective students have when they register for a course, it is important that these advertisements are realistic and truthful.
- The studies should normally be open to everyone, and the advertising ought to occur in a way that complies with this principle (Ot. prp 1991-92).

NADE appointed a *Standing Committee on Quality* as its expert body for quality matters involving quality criteria, quality standards, and quality assurance and improvement in distance education. In consultation with the Ministry of Education the committee developed the NADE Quality Standards. Further, the committee is responsible for assisting member institutions in quality management, and to take the initiative to regularly discuss quality matters and to stimulate understanding of and enthusiasm for quality improvements among NADE's member institutions. The Quality Standards are supposed to be recommendations giving the individual institutions sufficient freedom to define quality requirements on the basis of its own circumstances and possibilities, and at the same time represent certain minimum requirements that are expected to be met if the institution is to be able to maintain a justifiable level of

quality. The quality standards have both an internal and an external function. Externally the standards are supposed to contribute to the specification of quality standards that are relevant for any business offering distance education and e-learning and such NADE's quality standards are supposed to impact the quality of Norwegian distance education and e-learning in general.

The NADE standards were based on a matrix of problem areas for evaluation of a professional field or an institution that was presented in a report from Lund University (Nilsson 1992). One step in this model is the institution's self-evaluation, and the model designates nine areas for this self-evaluation determined by a matrix in which one evaluates students, teachers/courses and the organisation in terms of conditions and constraints, processes and results, respectively. During the work with the quality standards, this matrix was adapted to distance education. The distance education institution's activities were divided into four main categories. Each of these main categories is again divided into four phases. These are combined in a matrix of 16 elements, which we have called *quality areas*. For each of these quality areas certain *factors* have been specified, which can or ought to enter into the institution's evaluation of its own quality. One or more *Standards* are drawn up for the given factors of quality.

The quality standards that have been specified are grouped and numbered according to areas and factors that have been included in the matrix. Sometimes expressions like '*shall*' or '*must*' are used in the quality standards. In these cases the standard is meant to express a requirement that an approved institution is expected to meet. Expression such as '*ought*' or '*should*' means that the standard is not regarded as an absolute requirement. In a comprehensive evaluation of an institution's quality, however, the extent to which the institution meets all of the quality standards that are relevant to its activities will be a significant factor.

The NADE quality standards were originally developed in 1993, before e-learning, became a focus for most distance teaching institutions. The last revision was done in 2001 with specific attention to standards for e-learning.

	Conditions and Constraints	Implementation	Results	Follow Up
Information and Counselling	1 External constraints Organisation Partners	2 Channels Content	3 Student Body Other results	4 Evaluation Customer reactions
Course Development	5 External constraints Organisation Target group Staff Partners	6 Supervision and cooperation Follow up and guidance of authors Choice of media Formative evaluation	7 Course description Materials meeting requirements Teaching aids	8 Evaluation Customer reactions Updating and/or revision
Course Delivery	9 External constraints	10 Two-way-contact Teaching and	11 Students' achievement of	12 Evaluation Customer

	Organisation Students Materials Teachers Partners	guidance Exams and tests	goals Course completion Learning results	reactions
Organisation	13 External constraints Organisation Partners	14 Management Communication Future orientation	15 Achievement of goals Financial results Repute	16 Evaluation Reporting

Figure 2. The Matrix of Quality Areas and Quality Factors of NADE's Quality Standards

French Code of Practice – e-Learning

[The French Code of Practice \(AFNOR 2004\)](#) is a more recent example than the NADE Standards. Similar to the NADE Standards the Code of Practice is intended to be used within the national settings of its origin. In developing the guidelines the approach chosen was a result of a desire to converge French practices with international standards. It is pointed out that the guidelines are 'customer-oriented' (with a broad definition of customer as prescriber, financier and learner). The guidelines are also described as a process-oriented model. The guidelines are presented in 6 main areas:

1. *Introduction – who the code is intended for, area of application (use of ICT in training), description of the philosophy (customer/process model).*
- 2-6 *the process:*
 2. *Analysis – specificity of the process, strategic analysis, feasibility study.*
 3. *Construction stage - specificity of the process, constructing the training system, constructing the pedagogical resources.*
 4. *Equipment stage - specificity of the process, choosing, implementation, provide maintenance, develop.*
 5. *Implementation - specificity of the process, joining the training course, provide support, favour collaborative distance work, validation of learning.*
 6. *Assessment - specificity of the process, design and parameterize, collection and analysis, improve the system.*

A large number of sub-activities of the ones listed above are presented with a total of 282 recommendations (or guidelines). (AFNOR 2004).

The British Open and Distance Learning Quality Council (ODL QC) Quality Standards

The [Open and Distance Learning Quality Council \(ODLQC\)](#) was established in 1969 as the Council for the Accreditation of Correspondence Colleges and has continuously cooperated with and been supported by the government. The Council offers a voluntary accreditation scheme. The aim of the Council is to identify and enhance quality and protect the interest of the learners. Accreditation follows a rigorous assessment of all aspects of a provider's methods and activities and ensures that the 'Standards in Open and Distance Learning' (ODLQC 2000) are met. The standards define requirements on the provider and the pivotal activities of the provider, and are divided into 6 areas:

1. *Outcomes*
2. *Resources*
3. *Support*

4. Selling
5. Requirements of the provider
- 6 Collaborative provision (ODLQC 2000)

Quality Assurance Agency for Higher Education: Guidelines on the Quality Assurance of Distance Learning

The [Quality Assurance Agency for Higher Education \(QAA\)](#) published 'Guidelines on the Quality Assurance of Distance Learning' in 1999. The guidelines are meant to be part of the Agency's comprehensive quality assurance process. The reason was that more and more higher education institutions had started to offer distance learning programmes – both nationally and internationally. These developments were seen to face the institutions with new challenges - and possible problems. The aims of the guidelines for quality were: *"to help institutions check the soundness of their arrangements for these aspects (...the ways in which they 'manage' teaching and learning to ensure the quality of provision and security of academic standards as they need to be. ...) when the programmes of study are offered through distance learning."* (QAA 1999, p. 2).

The QAA guidelines are organised under 6 areas which should be specifically attended and focussed upon when programmes are offered as distance study:

- Guideline 1: System design – the development of an integrated approach*
- Guideline 2: The establishment of academic standards and quality in programme design, approval and review procedures*
- Guideline 3: The assurance of quality and standards in the management of programme delivery*
- Guideline 4: Student development and support*
- Guideline 5: Student communication and representation*
- Guideline 6: Student assessment*

For each area/guideline some main 'precepts' are presented together with some more concrete advice on measures and activities.

EFMD CEL e-Learning Accreditation

The European foundation for Management Development ([EFMD](#)) is a network organisation for business schools and operates the The European Quality Improvement System (EQUIS), an international system of quality assessment and accreditation, claimed to be *'the leading international system of quality assessment, improvement, and accreditation of higher education institutions in management and business administration.'* On the understanding that quality improvement of e-learning is an imperative need, the organisation developed the EFMD CEL (e-Learning Accreditation) (EFMD 2005).

According to EFMD the purpose of the CEL Programme is to raise the quality of e-learning programmes world-wide. It should be noted, though, that it is specifically directed towards e- learning in management and business administration. The quality criteria of EFMD CEL contains 6 areas:

1. Programme profile
2. Pedagogy
3. Economics

4. Technology
5. Organisation
6. Culture

German Institute for Standardisation (DIN) PAS 1032-1

The PAS 1032-1 (DIN 2004) (Publicly Available Specification) is developed by the [Deutsches Institut für Normung e. V.](#) It constitutes a comprehensive framework as reference for quality management and quality assurance in e-learning development projects. The model also is supposed to contribute towards transparency on the e-learning market. The first part is a process model for quality assurance of the development of e-learning products. It may be used as a checklist to document all aspects in the framework of quality assurance for formative and summative evaluation. It is meant for use in and by companies involved in the development of e-learning, and it takes into account the challenges concerned with the fact that in most e-learning projects a large number of actors may be involved in time-consuming collaborative work. The model is supposed to constitute a basis for later certification of e-learning courses (Berger 2005, Reglin 2006).

The PAS 1032-1 process model follows the following process categories with possible challenges for e-learning in business (Reglin 2006):

1. *Requirement analysis – more emphasis on planning than in traditional training courses, decisions to be taken based on careful analyses of learners, situation, media and pedagogical interactions*
2. *Context – learning independent of time and place and learning and teaching separated means that learning not always takes place in optimal contexts, need for counselling and media developed with regard to context.*
3. *Concept – relevant actors have to be involved in the development process, meta-data may be necessary to secure content availability, but may impose additional problems concerning usability for end-users.*
4. *Production – feedback loops including prototype testing should be provided for to ensure optimal adaptation of learning media and learning infrastructure to the company's goals and specific context, and to the needs of actors.*
5. *Introduction – the introduction of e-learning both to a company and to the learners requires attention, learners' participation in a process of change may be necessary.*
6. *Implementation – e-learning may require high degree of flexibility from learners, a close relation between the provider and customer may be necessary, and a convincing certification programme might be necessary to make e-learning attractive to learners.*
7. *Evaluation – transition to e-learning is often economic motivated, quality and costs are interrelated, evaluations must deal with issues of to which extent high quality can be ensured while decreasing long-term costs.*

DIN has also published a part 2 of the PAS 1032-1, *Didactic objects model; Modelling and description of scenarios for learning, education and training* (DIN 2004).

ISO/IEC 19796-1 Standard on Quality for E-Learning

As evidenced in the preceding paragraphs presenting some recent quality assurance approaches for open and distance learning and e-learning, there is a large variety of models and solutions in existence. The models show large differences, but they also have some similarities. Some include all major aspects of operation, management, development and delivery, some concentrates on the development, while others follow the life-cycle of an e-learning programme.

According to the ISO information the ISO/IEC 1976-1 Standard (2005a) “... is a framework to describe, compare, analyse, and implement quality management and quality assurance approaches. It will serve to compare different existing approaches and to harmonize these towards a common quality model. The main aspect is the Reference Framework for the Description of Quality Approaches (RFDQ).

ISO/IEC 19796-1:2005 consists of the following items:

- *description scheme for quality management;*
- *process model defining the basic processes to be considered when managing quality in the field of ICT-supported learning, education, and training;*
- *conformance statement for the description format.*

For a better understanding of ISO/IEC 19796-1:2005, several annexes show samples of its use. The annexes are based on the French 'Code of Practice in e-Learning' (AFNOR Z 76-001) and German DIN PAS 1032-1. (Presented above.) Additionally, an annex on Reference Quality Criteria (RQC) is included. These criteria serve as reference criteria for the analysis and evaluation of learning resources and scenarios. These criteria are also not a quality assessment approach itself, but a framework to compare different quality assurance and quality assessment approaches. Additionally, several examples of use are shown, such as specific quality objectives (e.g. metadata quality) and guidelines.

ISO/IEC 19796-1:2005 is only the first step towards a harmonized quality framework; the next step is to define quality instruments and metrics in order to provide a complete quality approach. It is planned to begin the work on the full quality approach as the second part of the QA activity.” (ISO 2005b).

The description part is a model for describing quality approaches, such as guidelines, design guides, requirements etc. to document quality concepts in a transparent way. The process part is a model to guide the processes involved in developing learning scenarios. The process is divided in seven steps:

1. *Needs analysis: Identification and description of requirements, demands, and constraints of an educational project.*
2. *Framework Analysis: Identification of the framework and the context of an educational process.*
3. *Conception/Design: Conception and design of an educational process.*
4. *Development/Production: Realization of concepts.*

5. *Implementation: Description of the implementation of technological components.*
6. *Learning process: Realization and use of the learning process.*
7. *Evaluation/Optimization: Description of evaluation methods, principles and procedures.*

According to Pawlowski (2006) the main objective of the ISO/IEC standard is to provide a transparent description model for quality management and quality assurance approaches. However, in fact, the most important function is to develop quality in organisations, described by Pawlowski (ibid.) as the *Quality Adaptation Model (QAM)* as a process in four steps:

1. *Context setting* covering all preparatory activities for the adaptation process.
2. *Model adaptation* contains activities to implement the reference model based on the needs and requirements of a specific organisation.
3. *Model implementation and adoption* is the realisation and broad use of the quality system.
4. *Quality development* means that quality systems should be continuously improved and further developed (Pawlowski (ibid.).

The ISO/IEC will be further developed with 3 additional parts. *'Part 2: "Quality Model" will harmonize the aspects of quality systems and their relations and will provide orientation for all stakeholders. ... Part 3: "Reference Methods and Metrics" will harmonize formats for describing methods and metrics for quality management and assurance. ... Part 4: "Best Practice and Implementation Guide" will provide harmonized criteria for the identification of best practice, guidelines for the adaptation, implementation, and usage of this multi-part Standard, and will contain a rich set of best practice examples.'* (ISO/IEC JTC1 SC36 n.d.)

Literature on quality in e-learning
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Van Damme, D., Van der Hijden, P. & Campbell, C. (2003): *International Quality Assurance and Recognition of Qualifications in Tertiary Education in Europe*. OECD/Norway Forum on Trade Educational Services. Managing the internationalisation of post-secondary education. 3-4- Nov. 2003. Trondheim.

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Van Vucht, F. A. & Westerheijden, D. F. (1993): *Quality management and quality assurance in European higher education. Methods and mechanisms*. Brussels, Commission of the European Communities.

Wirth, M. A. (2005): Quality Management in E-Learning: Different Paths, Similar Pursuits. Paper to the 2nd International SCIL Congress.

<http://www.scil.ch/congress-2005/programme-10-11/docs/workshop-1-wirth-text.pdf> (Retrieved 21.2.2005)

4. Indicators of size

Anderson, T. & Elloumi, F. (2004): *Theory and Practice of Online Learning*. Athabasca University http://cde.athabascau.ca/online_book/ch3.html

Brittain, S. & Liber, O. (2003): *A Framework for pedagogical evaluation of Virtual Learning Environments*.

http://www.jisc.ac.uk/index.cfm?name=project_pedagogical_vle

ABSTRACT: Major study by Britain and Liber on use of VLEs (LMSs) by British Universities.

Brittain S. & Liber, O. (2004): *A framework for the design of systems for E-learning.*

http://www.cetis.ac.uk/members/pedagogy/files/4thMeet_framework/VLEf

ABSTRACT: Further work by Britain and Liber on the design of elearning. Provides data on all UK higher and further education institutions.

Bersin Inc (2004) *Learning Management Systems 2004*

www.bersin.com www.elearningresearch.com

ABSTRACT: American e-learning observatory.

Centre for Learning Technology (CELT)

<http://toomol.bangor.ac.uk/>

ABSTRACT: Research centre at University of Bangor in North Wales, base for much of Britain and Liber's work.

Daniel, J. S. (1996), *Mega-universities and knowledge media. Technology Strategies for Higher Education*, Kogan Page Ltd.

Comments: Book around mega universities, and how organisation can use technologies to rise and get millions of students, in this sense there are concrete cases developed of the main institutions around the world.

Dondi, C., Szűcs, A., Wagner, E. (2005): *European E-Learning from Supranational Perspectives*. In *E-Learning in Europe – Learning Europe*, Waxmann Verlag GmbH, Münster.

ABSTRACT: The paper describes, analyses and evaluates European e-learning from national and supranational perspectives in order to obtain a 'full picture' and outline a forecast that is as reliable as possible. The contribution partially refers to the 'Policy Paper' (http://www.odl-liaison.org/pages.php?PN=policy-paper_2004) recently published and submitted by the ODL Liaison Committee (Open Distance Learning Liaison Committee), project reports of relevant European projects (DELOS, L-Change, HECTIC, SPOT+), and recent writings by the authors.

Ehlers, U., Pawlowski, J. M., Stracke, C. (2005): *Quality for E-Learning Regions: Supporting Lifelong Learning on a Regional Level*, in: *Lifelong E-Learning – Bringing e-learning close to lifelong learning and working life: a new period of uptake*, Proceedings of the EDEN 2005 Annual Conference.

JISC (2004): *Requirements for a VLE.*

http://www.jisc.ac.uk/printer_friendly.cfm?name=mle_related_vle

ABSTRACT: A British JISC study following on from work by Brittain and Liber.

Jones, R. (2003): *A Recommendation for Managing the Predicted Growth in College Enrolment at a Time of Adverse Economic Conditions.*

<http://www.westga.edu/%7Edistance/ojdl/spring61/jones61.htm>

Comments: The purpose of this paper is to explore the option of using distance education courses as a viable alternative to building classrooms and facilities. The continued yearly growth in college enrolment is expected to hold steady for the next ten years. The continued growth in enrolment should be considered beneficial to colleges and universities, however, these facts can be deceiving... .

Mason, R. (1999): European Trends in the Virtual Delivery of Education. In Farrell, G. (Ed.): *The Development of Virtual Education: a Global Perspective*. Vancouver, Canada: The Commonwealth of Learning.

Oslington, P. (2004): The impact of uncertainty and irreversibility on investments in online learning. *Distance education*, 25:2, pp. 233-242.

ABSTRACT: (Paul Oslington is working at the Australian Defence Force Academy.) Uncertainty and irreversibility are central to online learning projects, but have been neglected in the existing educational cost-benefit analysis literature. This paper builds some simple illustrative models of the impact of irreversibility and uncertainty, and shows how different types of cost and demand uncertainty can have substantial impacts on investment decisions. The techniques used are drawn from the financial option pricing literature. In some situations uncertainty should lead decision makers to delay projects, which would be accepted under the usual rule "invest if the net present value (NPV) is positive," and in other situations it suggests that projects with negative NPVs should be undertaken. The application of one of these models will then be illustrated in relation to a new online course: the Master of Educational Technology offered by the University of British Columbia

Rajasingham, L. (2005): *The Virtual University: From Turf to Surf – Same Journey Different Routes*. European Journal of Open, Distance and E-Learning, <http://www.eurodl.org/materials/contrib/2005/Rajasingham.htm>

ABSTRACT: The modern university developed in response to the needs of the industrial society and was enabled by the railways. The virtual university is emerging in response to the needs of the global knowledge society, and is enabled by the Internet. The core business of universities is the creation, storage, processing and dissemination of knowledge a primary factor of production and competitive advantage in the global economy. While the modern university responded to national needs, the virtual university will respond to the needs of an increasingly interconnected, multicultural, multilingual and globalised world. As a means of addressing the pressures of rising enrolments and increasing fiscal constraints, universities worldwide are assuming virtual dimensions to address the issues of globalisation itself. This article examines some implications.

Rooney, D. & Hearn, G. (2000): Of minds, markets and machines: how universities might transcend the ideology of commodification. In Inayatullah, S. & Gidley, J. (Eds.): *The University in Transformation: Global Perspectives on the Futures of the University*, CH. 8, Bergin & Garvey, Westport, CT.

The INLEI project (2004): *The impact of large-scale networked learning on Further and Higher Education institutions*.

www.sfeuprojects.org.uk/inlei/context/context.html

ABSTRACT: Follow up UK project to the work of Britain and Liber. The UK government's publication "Towards a Unified E-learning Strategy" (DfES, 2003) exhorts further and higher education institutions to engage in the challenge of making full use of new technologies. The government expects institutions to embrace these rapidly changing technologies that potentially allow for different modes of teaching, and also for different ways of dealing with growing student numbers and the increasing diversity of student needs. Consequently, although the growth of networked learning is only one of the many changes institutions are

embracing; it is seen by many as a fundamental underpinning to enable institutions to successfully meet the educational challenges of the 21st century.

Twigg, C. (2000): *Identifying targets of opportunity for large-scale redesign*. Educause.

Comments: The ambition of having large-scale courses (about 50 percent of student enrolment is concentrated in just twenty-five courses) must be followed by the seek of the way to use IT more strategically in order to improve the quality of student learning and to increase the productivity on the campuses.

Tysome, T.(2004), "Size 'not crucial' for university title award", *The Times Higher Education Supplement*, 9 January, p.8.

Some literature in Hungarian

A vállalatoknak van még mit tanulni a kombinált képzésről.

A Bersin & Associate részletes tanulmánya 2 év kutatási eredményeit összegzi, és több mint 30 cég gyakorlati tapasztalatai alapján voksol a kombinált tanulás mellett.

http://www.oktopusz.hu/mss/alpha?do=9&st=42&m289_doc=617&pg=223

Comment: Companies have to learn more about blended learning. (Article by Bersin & Associate based upon a 2-year research among 30 companies)

„... minden feltétel megvan, még az is, hogy egészen más tartalmakkal működjön a rendszer”. Az iskolarendszerű felnőttoktatásról 2005-ben.

<http://www.oki.hu/oldal.php?tipus=cikk&kod=2005-07-np-Mayer-Minden>

Comment: "We have all premises, even the possibility to operate the system with other contents" (Interview edited by József Mayer to the National Institute for Educational Research about adult education in 2005.)

Orbán Brigitta: Az e-learning nemzetközi és magyarországi tendenciái. BKAÉ 2003.

www.magabiztos.hu/emagabiztos/downloads/szakdol_orban_brigitta.pdf

Comment: International and Hungarian Trends of e-learning. (Article written by Brigitta Orbán)

Dr. Mlinarics József: Az egész élethosszon át tartó tanulás és az infokommunikációs technológiák együttes alkalmazásának a nemzetközi-, a magyarországi helyzete és a jövőbeni fejlődés lehetőségei 2003.

www.nive.hu/kutatas/tanulmanyok_files/Tanulmany_Mlinarics-Soltesz-GKP_tanulmany_vegleges_12.08..doc

Comment: Overview and possibilities of development of Life long learning and the ICT in Hungary and in international context article written by József Mlinarics and Péter Soltész.

5. Institutions which failed to reach targets

Bacshish, P. (2006): *The closure of the UK e-University*.
<http://cms.eun.org/shared/data/ppt/efquel-bacsich-draffinal.ppt>

ABSTRACT: A Powerpoint presentation by Bacshish on the failure of the UK e-University.

Documentation on the closure of the Open University of the United States.

ABSTRACT: In an over ambitious initiative the Open University of the United Kingdom founded an offshoot in the United States, which had to be closed when it was found there was no market.

Documentation on the closure of the UK e-University.

ABSTRACT: In an over ambitious initiative the Blair UK government founded an e-University to sell courses from UK universities all over the world. It had to be closed after an expenditure of £40 million.

Koumi, J. (1995): Building good quality in, rather than inspecting bad quality out. Chapter 31. In Lockwood, F. (Ed.): *Open and Distance Learning today*. London, Routledge.

The U.K. e-University

Education and Skills - Third Report. (UK Parliament report summing up the e-University project after it failed). Published February 2005 and available at <http://www.publications.parliament.uk/pa/cm200405/cmselect/cmeduski/205/20502.htm>

Bacsich, P. (2005): Lessons to be learned from the failure of the UK e-University, Middlesex University, article available at <http://www.unisa.edu.au/odlaaconference/PDFs/32%20odlaa2005%20-%20bacsich.pdf>

Engelbrecht, E. (2003): e-learning – from hype to reality, Bureau for Learning Development, Unisa. 2003.
<http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=14011>

Abstract: The academic and corporate worlds are investing in e-learning as a cost-effective method of providing lifelong education. However, many e-learning initiatives have failed to achieve the success and high levels of payback that were anticipated.

Garrett, R. (2004) The real story behind the failure of the U.K. e-University. EDUCAUSE quarterly, volume 27, number 4, 2004, pp. 4-6. Available at <http://www.educause.edu/ir/library/pdf/EQM0440.pdf>

Samuels, M. (2005): Computing report on the findings of the Education and Skills Committee inquiry into the doomed UKeU online learning initiative <http://www.vnunet.com/computing/analysis/2076034/ukey-sorry-tale-elearning-scheme>

Samuels, M. (2005): Ufi's executives look to learn from others' mistakes. Review of the prospects for the world's largest government-backed elearning

scheme. Computing, 07 Dec 2005.

<http://www.vnunet.com/computing/features/2147275/ufi-executives-look-learn>

Willging, P. A. (2004): Factors that influence students' decision to drop out of online courses. *The Journal of asynchronous learning networks*.

Available in <http://www.sloan->

[c.org/publications/jaln/v8n4/v8n4_willging_member.asp](http://www.sloan-c.org/publications/jaln/v8n4/v8n4_willging_member.asp)

Comments: Article that analyses the specific reasons for online students drop out by a real survey. It seems that isolation, disconnectedness and technological problems are the main affecting factors. In the conclusion part there exist some recommendations when designing online courses bases on this experience.

Literature in Norwegian on the Norwegian Network University

The Network University

The following literature describes a Norwegian consortium termed "the Network University" (NVU). NVU, originally launched in the early 90-ies, has currently ceased to work as common course provider, and can thus be classified as an organisation which failed to reach targets. However, one of the institutions that was member of the consortium, may on its own hand be classified as a megaprovider today (depending on how we end up defining a megaprovider), so the literature listed here may also be relevant under the three headings above. The literature is in Norwegian:

En ekstern evaluering av et SOFF-støttet fjernundervisningsprosjekt – didaktiske modeller I NITOL-prosjektet. SOFF-rapport 2-1998.

Ask, B. og H. Haugen (2001): Erfaringer med nettbasert læring – fra NITOL-prosjektet 1994-2000. I: Jan Alexandersen med flere (red.) Nettbasert læring i høgre utdanning – noen norske erfaringer. SOFF-rapport 1-2001

Halvorsen, K. A. (2001): Nettverksuniversitetet – et åpent universitet på norsk. In Jan Alexandersen med flere (red.) Nettbasert læring i høgre utdanning – noen norske erfaringer. SOFF-rapport 1-2001.