elq for sme

e-learning quality for sme's: guidance and counselling

Criteria for Evaluating Quality in e-Learning

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

Torstein Rekkedal, Director of Research and Development, NKI, Norway

Summary

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 would imply a challenging programme for modernisation, not least 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. This paper is looking into the concept of e-learning and specifically into questions concerning quality assurance on the European scene. It is an agreed belief in European policy that to reach the ambitious goal of the Lisbon strategy there is a need to actively support development and adoption of e-learning throughout Europe, on all levels in education and training for business and industry, not least among SMEs.

The paper discusses the relationship between distance education, online education and learning and e-learning. E-learning involves *"the use of new multimedia technologies and the Internet"* and may or may not include exchanges between the student and other students or between the student and the supporting organisation and tutors. Concepts concerned with quality and quality assurance are discussed indicating that there are many dimensions of quality related to learners, institutions, programmes and the society. Concerning the definition of SME, the paper keeps with the EU definition, *"enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro."*

Examples of solutions for securing credibility and quality in European distance education is presented as examples of how non-traditional education and training institutions for many years have approached the challenge securing and demonstrating quality. These early quality approaches have been revised to adapt to distance learning solutions involving e-learning and online education.

Quality approaches in e-learning are grouped into four different solutions, *approaches to quality management, best and good practice and benchmarking, certification and accreditation systems, quality competition and awards.* The grouping is followed by a presentation of a number of different quality management systems in distance education and e-learning.

As a result of the strategic goals of EU for education and training large number of actions and programmes have supported the development of e-learning and e-learning quality. The paper proceeds from the presentation of quality approaches to present some important recent EU-supported projects on e-learning quality, followed by the presentation of national and international (mainly European) organisations working specifically with quality in e-learning.

Introduction

In many areas of the society - in industry, public administration and the service sector - we have in recent years witnessed a rapidly growing interest in and emphasis on matters of quality. In industry, quality control is a well-known phenomenon, i.e. manufactured goods are inspected and then either approved or rejected on the basis of well-defined specifications. A high percentage of errors mean that production is not cost-effective. Thus, quality control gives rise to a need for quality assurance - i.e. routines and systems that can ensure that the manufactured goods meet the specified quality standards.

In industry, a firm that can document an effective quality assurance system will be more easily able to inspire confidence as a supplier of goods. This is one of the reasons why national and international standards for quality assurance have been issued. It is illustrating, for instance, that in the newly introduced quality and accreditation system of Norway, a two-stage cycle was decided for the institutional accreditation process. Before being accepted for an external evaluation procedure, the institutions are required to have an approved quality assurance system in place (ENQA 2004, Di Nauta et al. 2004). International standards often do not define the products' quality, but describe the requirements that ought to be made of the firms' quality systems. The quality specifications are set by the individual firm, or jointly by the firm and a contract partner, in our connection this would be between the supplier of e-learning and an SME as customer.

The standards for quality assurance were originally developed in connection with production-oriented industry. However, they are also being increasingly employed in service-oriented activities, and public and private educational institutions specifically, and are being revised and supplemented with education and training in mind. Often the use of quality standards is combined with ideas taken from "total quality management" philosophy. Total quality management is usually associated with an extensive effort to focus the whole organisation and its mode of operation on the users' needs, with a continuous monitoring and improvement of the quality of the organisation's performance. Since 1986/87 the series of '*International Standards'* (ISO 9000 series) have been an important starting point in the endeavour to achieve higher quality.

Concept clarifications

Distance education, Online Education and E-learning

Online Education: There are many terms for online education. Some of them are: virtual education, Internet-based education, web-based education, and education via computer-mediated communication.

Our definition of online education is developed from the definition of Keegan (1996): Distance education is a form of education characterized by:

• the quasi-permanent separation of teacher and learner throughout the length of the learning process (this distinguishes it from conventional face-to-face education);
• the influence of an educational organization both in the planning and preparation of learning materials and in the provision of student support services (this distinguishes it from private study and teach yourself programmes);
• the use of technical media – print, audio, video or computer – to unite teacher and learner and carry the content of the course;

• the provision of two-way communication so that the student may benefit from or even initiate dialogue (this distinguishes it from other uses of technology in education); and
• the quasi-permanent absence of the learning group throughout the length of the learning process so that people are usually taught as individuals rather than in groups, with the possibility of occasional meetings, either face-to-face or by electronic means, for both didactic and socialization purposes. (p. 50)

If we accept that online education represents a subset of distance education we may define online education by accepting Keegan's definition and changing the third and fourth points to the following:
• the use of *computers and computer networks* to unite teacher and learners and carry the content of the course;
• the provision of two-way communication *via computer* networks so that the student may benefit from or even initiate dialogue (this distinguishes it from other uses of technology in education) (Paulsen 2003).

Most proponents of online education would exclude Keegan's 'quasi-permanent absence' of the learning group, since collaborative learning, where students may communicate throughout the length of the learning process is seen as one of the greatest advantages of online learning relative to previous 'generations' of distance education (McConnell, 2000). On the other hand, there is good reason to stress that most adult students need to organise their studies according to demands of work, social life and family responsibilities. These needs must be balanced against a possible didactic ideal of collaborative and/or co-operative learning. Thus, the flexibility of the institution in adapting course requirements so that students may organise their learning independent of a study group is a key quality aspect for many online students (Rekkedal, 1999). This does not at all exclude learning methods exploiting the advantages of being part of a group or learning community.

'Distance education' and *'distance learning'* as defined by Keegan (1996) are well-established concepts. The *'distance learner'* is a person who, for some reason, will not or cannot take part in educational programmes that require presence at certain times or places.

The term *'e-learning'* (and also *'m*-learning') have entered the scene more recently. Some writers in the distance education field have been sceptical to the value of the e-learning concept. According to Dichanz (2001) most examples of e-learning programmes seem to be extremely costly to develop and most often cover low-level knowledge and facts based on a simplistic view of what learning is. He also maintains that higher-level learning goals require "individualised discourse" and that they "hardly can be planned" (Ibid.). This view seems to suppose that *e-learning is defined to include interactive learning in which the learning content is available online and provides automatic feedback to the student's learning activities only.* However, it seems that most definitions of e-learning now include the availability of online communication with real people (co-learners and/or tutor(s), and thus focus both on the learning content and on communication and interactions with people.
As the term seems to have become part of accepted terminology, it is imperative for educational researchers and serious providers to define it and assign meaning that is in accordance with our views on teaching and learning. Even though we do not agree that higher level learning goals cannot be planned, we agree that such goals are much more difficult to plan, and that many e-learning programmes do not demonstrate attention to higher level learning objectives.

The *E-learning project Exemplo* of the European Vocational Training Association (EVTA 2005) presents the following typologies of e-learning or different ways of exploiting the Internet for learning purposes:

"A. free use of the network for accessing unstructured aids following a specific training pathway, just as if one had access to a huge library to leaf through books on a specific subject;

B. use of teaching aids following a specific training, worked out to be exploited in distance and individual learning;

C. use of teaching aids to be exploited in distance, mainly individualized learning with help from the coaching source;

D. use of teaching aids, not necessarily structured within a real individual training course, with the help from a tutor or trainers made available by the coaching source;

E. use of blended approach (in-class or distance) based on the complementary character between in-class and distance learning;

F. use of real network training approaches based on the very interaction of all the learning parties (participants, tutors, experts);

G. use of the practice communities aimed at forming co-operative groups, made up of former trainees or professionals, for instance, sharing experiences, knowledge and practices of excellence with a view to the collective growth of the whole group."

E-learning is often used as a more generic term and as a synonym for online education and more and more as a synonym for distance education. Kaplan-Leiserson (n.d.) has developed an online e-learning glossary, which provides this definition:

"Term covering a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio- and videotape, satellite broadcast, interactive TV, and CD-ROM, and more."

At *eEurope – Europe's Information Society Thematic Portal* (n.d.) e-learning is defined as:

"The use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration." This definition was originally launched in *The eLearning Action Plan* (European Commission 2001).

The term e-learning is, as one can see, not very precise, and it should be pointed out that learning is just one element of education. One may also claim that e-learning companies often focus on course content, while online education institutions and other institutions offering distance education/online education cover the whole range of educational services of which student support most often is given major emphasis. One should note that the *Open and distance Quality Council* (n.d.) in UK defines e-learning as:

"E-Learning is the effective learning process created by combining digitally delivered content with (learning) support and services." (ODLQC n.d.)

This definition claims e-learning to include student support and student services and thus excludes self-instructional programmes, pure computer-based learning from the e-learning definition. This is in accordance with Keegan's (2000) view on web-based training (that consequently becomes more or less synonymous with e-learning):

"... that web based education is best regarded as a subset of distance education and that the skills, literature and practical management decisions that have been developed in the form of educational provision known as 'distance education' will be applicable mutatis mutandis to web based education. It also follows that the literature of the field of educational research known as distance education, is of value for those embarking on training on the web." (p. 18)

Inherent in Keegan's view lies the assumption that it is a great challenge for quality when institutions with a historical background from traditional on-campus education embarking on developing and offering online distance learning often seem to transfer teaching/learning philosophies, theories, concepts and metaphors from their traditional environment. Thus, skills, research literature, and management solutions developed in the field of distance education is of specific value when developing e-learning for SMEs in Europe.

Quality and Quality Assurance

Quality is most often defined *'fitness for purpose'* related to the needs of the user/customer (Juran 1988), which indicates that quality depends upon a subject's view of what is the purpose of that phenomenon. In education the customer is not always easily identified. In public education the government pays, the immediate user is the student, secondary users are employers (e.g. SMEs) etc. Quality, thus, is a value judgement interpreted by different stakeholders, government, teachers, administrators, students, employers etc. On the other hand, to assure and assess quality we must have a clear notion of what it is.

Another definition could be could be that the *'product comply with defined requirements'*. Consequently, purpose and requirements, then, should be defined by the significant stakeholders, in our connection not least the SMEs. Birnbaum (1989) has stressed this diversity and for instance pointed out three dimensions of quality in higher education: *the meritocratic* (the institution's conformity to professional and scholarly norms with the academic profession as reference group), *the social* (the degree to which the institutions satisfies the needs of important collective constituents) an *individualistic* (the contribution the institution makes to the personal growth of students (from Van Vucht & Westerheijden 1993).

A specific interesting view concerning emphasis on the individualistic aspect of e-learning quality is presented by Ehlers (2004), who argues that of all the dimensions and aspects of e-learning quality the perspective of the learner is probably the most important. Education differs from other products in that education (or learning) is not a product that the consumer buys, *"…learning rather constitutes a process that they have to carry out by themselves."* (Ibid. p. 3). According to Ehlers, e-learners' subjective quality requirements can be structured into seven fields of quality – tutor support, collaboration, technology, cost-expectation benefits, information transparency of provider/course, course structure/presence courses, didactics. According to differences in preferences learners are divided into four different groups – individualistic learners, result-oriented learners, pragmatic learners, avant-gardist learners.

Some other important concepts are *'quality control'*, *'quality assurance'*, *'quality management'* and *'quality assessment'*. Quality control is defined in technical environments as: *'the operational techniques and activities that are used to fulfil the requirements for quality'* (ISO 8402). Van Vucht & Westerheijden (ibid.) add that concerning (higher) education the term also includes the state control strategy concerning quality (now illustrated specifically by the *'Quality Assurance Agencies'* established in most European countries).

Quality assurance is *'all those planned and systematic actions necessary to provide adequate confidence...'* Quality management is defined as *'that aspect of the overall management function that determines and implements the quality policy'*.

According to the recent OECD-CERI study on international quality assurance in tertiary education in Europe, *'…the vocabulary of 'quality assurance' is not yet standardised and clear'* (Van Damme et al. 2003). The paper uses *'…the concept of 'quality assurance' as a specific form of evaluation, indicating the processes and schemes that have the objective of assessing, monitoring, guaranteeing, maintaining and/or improving quality in higher education institutions and/or programmes'* (Ibid.). In this paper we use the same definition in relation to e-learning programmes.

The OECD-CERI study defines *'accreditation'* as *'…a particular form of quality assurance, with a distinctive character of being concluded by a formal judgement, which leads to the formal approval of an institution or programme that has been found by a legitimate body to meet predetermined and agreed standards, eventually resulting in an accredited status granted to a provider or programme by responsible authorities'*. (Ibid.). Institutions offering e-learning to SMEs and/or the e-learning programmes may or may not be subject to voluntary or statutory accreditation.

Definition of small and medium sized enterprise

According to the EU Commission SMEs are defined as follows:
'The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro.'
EU Commission (2003, 2005). The definition includes micro, small and medium sized enterprises.

State of the Art of Distance Learning and E-learning Quality Assurance

Abundance of quality approaches

During the last few years many efforts have been taken to establish systems and procedures for quality management and quality assurance in the educational sector. Until recently it was expected that higher education institutions in Europe ensured quality through internal processes only, but since the mid-eighties some pioneering countries, UK, France and the Netherlands, established bodies formal quality assessment (Van Damme et al. 2003).

The Bologna process of convergence, transparency and mutual recognition of higher education has spurred the establishment of national accreditation bodies as well as international cooperation on quality assurance. E.g. Danish Evaluation Institute (2003)

identifies 34 ‘quality assurance agencies’ in 23 countries. The increase in accreditation bodies has been dramatic – while only six European countries hade some kind of accreditation schemes in 1998, the picture five years later is quite different when all but two countries had introduced accreditation procedures related to institutions and programmes in higher education (Schwarz & Westerheijden (2003) cited from Van Damme et al. (2003)). According to Wirth (2005) more than 140 quality approaches to be associated with the International Network of Quality Assurance Agencies in Higher Education (INQAAHE), and most of these bodies follow their own approaches.

Although there is an abundance of studies and papers on quality approaches, Wirth (ibid.) points out that the majority address traditional educational settings and rarely include recent educational innovations and e-learning. However, as we shall see in the following there are also a number of project activities, organisations and studies that relate to quality approaches in e-learning and distance education.

The quality approaches may mainly be characterized as *input-oriented* models focussing on the resources utilised for achieving objectives, *output-oriented* models that examine ex-post-facto to what extent goals are met, and *process-oriented* models on the potentials within the organisational structure and *participant-protective and demand-oriented* models that provide results of product tests or criteria for demand related evaluation of products on the market (Reglin 2006). Komáromi et al. 2004) apply other dimensions and refer to *life-cycle* models that focus on different phases of an e-learning product beginning with the planning till the termination of the product’s use and a *functional* model covering all areas of educational and administrative activities.

Reservations towards quality management in education and e-learning

In spite of the expansion of quality approaches there are also some reservations concerning to what extent quality management in general and also for distance education and e-learning are feasible (Ibid.). Legislation and public accreditation ‘*usually also lead to an improvement in quality at most institutions, but some negative experiences have also been reported. Some argue that an emphasis on minimum standards may result in a mediocre level of quality. It can also have a negative effect if the requirements introduced are too detailed. Quality appraisals and pedagogical attitudes keep evolving, and rules and criteria can easily lag behind the development of pedagogy and technology and becoming barriers for progress in the field’* (Ljoså & Rekkedal 1993).

Similar Wirth (2005) cites Tullock & Sneed (2000) concerning quality accreditation and certification*: ‘There is a big danger of certified input, process and output variables to become inflexible rules that may stifle future innovations and quality improvements. Even worse: in respect to the use of e-learning, Tulloch & Sneed conclude that traditional quality standards in higher education mislead many institutions to imitate classical face to face trainings instead of fostering and leveraging strategic advantages of media supported learning scenarios…. In this context, it must be assumed that quality assurance measurements that purely focus on traditional quality goals (e. g. physical infrastructure like library, public working space) negatively affect the overall quality because they result in an inefficient use of funds and capacities in new and change educational environments.’* (Wirth 2005). Similar problems concerning the transferability of quality managment approaches into learning are dicussed by Reglin (2006) partly based on the difference between a *‘customer orientation’*

relative to a *'partipant orientation'*. However, Reglin (ibid.) states that such objections have been less usual in the field of vocational learning.

Credibility and Quality Control in Independent Distance Education

Historically, distance education has had to battle for recognition and consequently early developed procedures for demonstrating quality. Credibility of quality management has increased with the introduction of e-learning. Rumble (2000), for instance, states that "*one of the problems facing distance education at this time is a concern that new providers are more interested in profit than quality service."* According to Rumble (ibid.) *"... successful operators will need to adopt service management approaches to deliver a quality product"*.

Assurance and demonstration of quality in distance education have been solved in various ways:

Legislation

Many countries have regulated distance education, usually by means of special laws for this type of education. Norway was the first to do so in 1948 (Ot. prp. nr. 36 1948): *Om lov om brevskoler* (The Correspondence School Act). Other countries that have followed suit include Italy, Denmark, Belgium, Spain, West Germany, France and the Netherlands (Ingham 1991, Weinstock et al. 1976.)

In most cases the main aim seems to be to safeguard consumer interests - thus, this is explicitly stated in the German Gesetz zum Schutz der Teilnehmer am Fernunterricht (Act of 1976 relating to the protection of the student in distance education). The German law had the same intention as the Norwegian state regulations: *"In Norway state control was introduced to protect customers from being exploited by owners of correspondence schools"* (Skår 1981).

A comprehensive overview of economic and consumer law and distance education in Europe was published by the European Commission some years ago Remien (1994). In many cases separate institutions or bodies have been established to exercise the state control (Karow & Storm 1975). In Portugal a law on specific conditions relating to distance education was issued in 2001 (Decree-Law No 17035 2001). It should be noted that in Norway about the time e-learning was introduced into distance education, the specific legislation concerning this field was included in the general law on adult education and responsibility for quality was rested with the institutions.

Voluntary Accreditation

The best known example is probably the accreditation scheme of the Distance Education and Training Council (DETC) in the USA. The accreditation is based both on self-assessment and Assessment by the *Accrediting Commission* (DETC 2006). The parallel European example is the accreditation of the British Open and Distance Learning Quality Council (ODLQC).

Agreed Association Standards

When the Norwegian Association for Distance Education (NADE) was established in 1968 the first activity was to establish *'rules for good practice'*. Code of ethics or guidelines for practice have also been an important issue for organisations in the field, such as the Europan Association for Distance Learning (EADL). The organisation claims that *'promote quality and professional and ethical standards in distance* learning' is a main objective, and members *must also comply with the 'Minimum Standards of Quality for EADL Members'* (EADL 2006).

Research and evaluation

Most large distance education institutions have established separate departments or institutes for research and evaluation, or have formalised their quality improvement and quality assurance work in other ways. Examples of this are Britain's *Open University* with its *Institute of Educational Technology* and *FernUniversität* in Germany with its *Zentrales Institut für Fernstudienforschung* (ZIFF)(recently closed down with the argument that research in distance education and e-learning is the responsibility of the faculties) and *Zenter für Fernstudienentwicklung* (ZFE) Development) and many other distance education universities established later in Europe and other parts of the world (see e.g. Schuemer 1991, Rathore & Schuemer 1998). Some distance education institutions, such as NKI in Norway, have also carried out systematic research and evaluation work on their own practices for many years, not least after the introduction of e-learning.

Systematization of quality approaches in e-learning

The following paragraph is an account of Wirth's (2005) attempt to systematize e-learning quality approaches. He builds on the Deming-Circle terminology of total quality management (Plan (1) –Do (2) – Check (3) – Compare (4)) and organises quality management solutions into the four fields.

Field 1 (Plan): Approaches to quality (management) planning
Here Wirth (ibid.) identifies three main organisations that drive the developments of management approaches, the European Foundation for Quality Management (EFQM), International Organisation for Standardisation (ISO) and Deutsche Institute für Normung e. V. (DIN). These organisations have reacted to controversies of transferring quality management models to the educational sector, and developments that focus on education and e-learning has been developed. The EFQM Excellence Model transferred to distance education will be discussed below in connection with the EADL Quality Guide.

Field 2 (Do): Best and good practise, examples/guidelines, benchmarking
Approaches focus on the realisation of e-learning solutions with continuous assessment against best and good practise examples known as benchmarking. A large variety of recommendations, guidelines and criteria catalogues can be found. An example is Association Française de Normalisation (AFNOR) French Code of Practice in E-Learning. The Quality Standards of the Norwegian Association for Distance and Flexible Education (NADE) also belong to this category. The Institute for IT training at the University of Warwick has developed a number of "best practice" documents, such as Code of Practice for E-learning Providers and even a Charter for e-learners to inform learners of what to require from an e-learning course.

Field 3 (Check): Quality certification and accreditation on different levels
These are formal quality assessments executed by external accreditation or certification bodies as discussed above specifically in connection with European higher education. Valid evaluation methods and clear quality criteria indicators are crucial elements. Wirth (ibid.) divides the category in three subgroups:
1. Accreditation and certification mainly on institutions e.g. the Distance Education and Training Council in the US (DETC) with its accreditation system. Another example is the British Quality Assurance Agency for Higher Education (QAA) with the general Code of Practice for Higher Education and the Guidelines on Quality Assurance of Distance Learning (QAA 1999).

2. Accreditation and certification of management oriented education, e.g. The European Foundation for Management Development (EFMD): The European Quality Improvement System (EQUIS), which is claimed to be the leading international accreditation for business schools. EFMD has also developed a specific scheme for e-learning accreditation, EFMD CEL – eLearning.
3. Accreditation and certification of e-learning products and services, e.g. eQCheck by the private EQCHECK Company with its branch in Europe (UK) offering accreditation of e-learning products based on the Canadian Recommended eLearning Guidelines (Future Ed. 2002).

Field 4 (Compare): Quality competition and Awards
These approaches do not evaluate products according to defined criteria but compare solutions according to competitiveness or other defines aspects of a product. The competitive ranking is supposed to effect the development of high quality services and products. Wirth (ibid.) points out that these approaches are intended to stimulate top achievements rather than evaluate against minimum criteria as in field 3. A number of IT, computer and e-learning organisations award prizes for outstanding e-learning solutions, e.g. the European eLearning Award and many others nationally and internationally.

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

In the following we shall present some examples of *'Quality Systems'* developed specifically for distance education. 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.

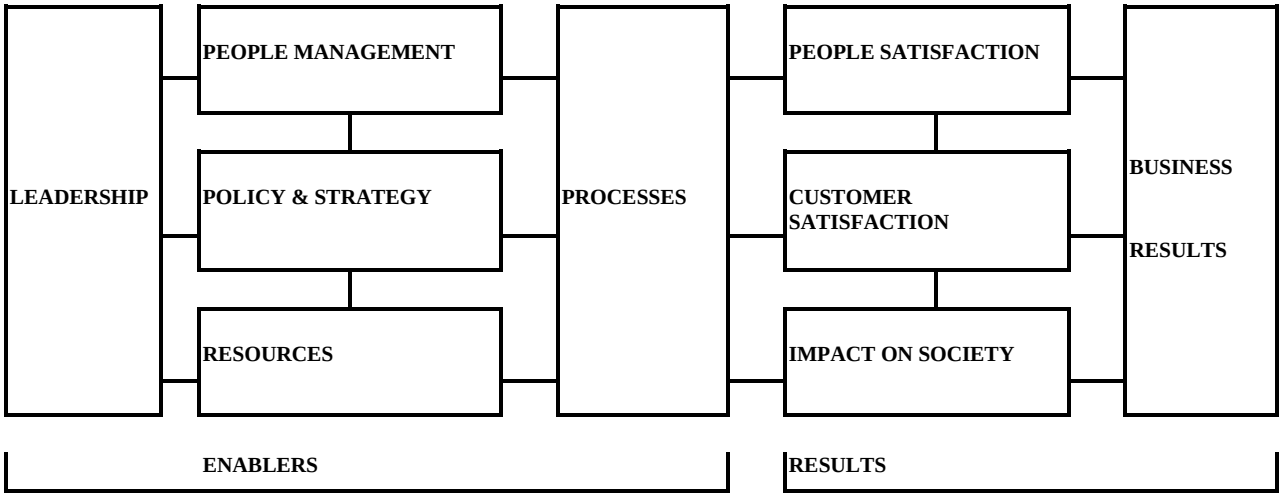
1. *EADL/European Association for Distance Learning: Quality Guide (2003)*
2. *NADE /Norwegian Association for Distance Education: NADE's Quality Standards for Distance Education (2001)* (Ljoså & Rekkedal 1993).
3. *AFNOR: Code of practice: Information technologies – eLearning Guidelines (French Code 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 expresses 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 Organisation Students Materials Teachers Partners	**10** Two-way-contact Teaching and guidance Exams and tests	**11** Students' achievement of goals Course completion Learning results	**12** Evaluation Customer 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) (Publicitly 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.)

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): D*evelopment 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).

As mentioned, the TRIANGLE project has a main aim of establishing the

The European Foundation for Quality in eLearning (EFQEL) was established December 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.

Some Organisations Involved in E-Learning Quality Activities

The majority of organisations and institutions presented below has also been mention earlier in this paper.

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.

Conclusions/Consequences for SMEs

To reach the goal of the Lisbon strategy of Europe to be the most competitive knowledge based economy in the world a major transformation of European educational and training systems in all areas and levels has to take place. In business and industry it is a necessity that small and medium sized enterprises are not lagging behind in competence development of their employees. While larger companies often have the resources to develop and/or purchase e-learning solutions for their employees, this is out of reach for most SMEs. It also seems that many SME employers and managers are not sufficiently informed about availability, possibilities, quality and cost-efficiency of e-learning. It is a fact that e-learning may be more efficient, cheaper and more practical than many presence courses for competence development, in-service training and life-long learning for employees in SMEs. Most SMEs will have the possibility of finding e-learning solutions on the market that may suit their needs and requirements. SMEs are often member of a national or international organisation together with other companies having the same or similar training needs. In such cases it may be

possible to cooperate within a branch organisation in developing e-learning courses for use by its members. It is important that SMEs, managers and employees become informed about the possibilities of e-learning to be able to make decisions whether e-learning may suit their needs, and also that they are able to judge quality when searching for e-learning solutions.

Important criteria for judging the quality of e-learning programmes are:
1. Credibility of the institution offering e-learning: Is the institution's reputation acceptable; is the institution, the e-learning programme and/or the course accredited according to national standards?
2. Quality assurance or quality management systems: Does the institution have acceptable formal systems for quality management and for quality control of the e-learning courses?
3. Pre-enrolment information and guidance: Is the information about the e-learning courses sufficient for deciding whether the course is suited to the needs of the company and needs of the learner?
4. Course costs: Is the cost of the course, including price and non-economic costs in accordance with expected results and benefits for the learner and the company?
5. Support for the e-learner: Does the course include subject related, social and/or technical learner support? Is the support provided sufficient for satisfying learners' needs and for reaching the course objectives?
6. Individual preferences: Is the e-learning course designed to allow for different learner preferences concerning structure, communication and learning styles?

References:

Act of 12 November 1948 concerning Correspondence Schools (amended by Act of 7 February 1969)

Act of 28 May 1976 no 35 on Adult Education (amended by Act of 19 June 1992 and provisions, Ministry of Education, Research and Church Affairs (KUF), 1993)

AFNOR (2004): Code of practice: Information technologies – e-Learning guidelines. English translation by French Forum for Open and Distance Learning (FFFOD). http://www.fffod.org/fr/doc/RBPZ76001-EN.doc (Retrieved 27.2.2005)

Berger, T. (2005): Cited from "Teaching Culture project site http://www.teaching-culture.de/en/public_relations/conference/conference.htm (Retrieved 28.2.2005)

Birnbaum, R (1989): The Quality Cube: how college presidents assess quality in: *Quality in the Academic: Proceeding from a national symposium*. National Center for Postsecondary Governance and Finance. University of Maryland.

Danish Evaluation Institute (2003):Quality procedures in European Higher Education. An ENQA survey. ENQA Occasional Papers 5. http://www.enqa.net/files/procedures.pdf (Retrieved 20.2.2005)

Decree-Law No 17035 (2001): Portuguese Legal Framework on Distance Education.

DETC (2006): Accreditation Handbook. DETC. http://www.detc.org/acredditHandbk.html (Retrieved 22.2.2005)

Dichanz, H. (2001). *E-learning, a linguistic, psychological and pedagogical analysis of a misleading term.* Paper presented at the 20th ICDE World Conference in Düsseldorf, Germany.

DIN: (2004): (DIN) PAS 1032 – 1. Learning, education and training focussing on e-learning - Part 1: Reference model for quality management and quality assurance - Planning, development, realisation and evaluation of processes and offers in learning, education and training - Part 2: Didactic objects model; Modelling and description of scenarios for lerning, education and training, CD-ROM

Di Nauta, P., Omar, P-L., Schade, A. & Scheele, J. P. (eds.) (2004): Accreditation Models in Higher Education. Experiences and Perspectives. ENQA Workshop Reports 3. http://www.enqa.net/files/ENQAmodels.pdf (Retrieved 20.2.2005)

EADL (2003): Quality Guide. Quality Guidelines to Improve the Quality of Distance Learning Institutes in Europe. 2nd. ed. EADL. http://www.eadl.org/ (Retrieved 22.2.2005)

eEurope – Europe's Information Society Thematic Portal (n.d.): http://europa.eu.int/information_society/eeurope/2005/all_about/elearning/index_en.htm (Retrieved 20.2.2005)

EFMD (2005): CEL (e-Learning Accreditation). http://www.efmd.org/attachments/tmpl_1_art_041115geyj_att_060124lhns.pdf (Retrieved 28.2.2005)

EFQEL (2005): What is EFQEL? http://www.qualityfoundation.org/ww/en/pub/efquel/about/what_is_efquel_.htm (Retrieved 28.2.2005)

EFQM (1992): *Total Quality Management. The European Model for Self-Appraisal. Guidelines for Identifying and Addressing Total Quality Issues.*

Ehlers, U.-D. (2004): Quality in e-learning from a learner's perspective. Third EDEN Research Workshop 2004, Oldenburg, Germany: Ehlers, U.-D. (2004): Quality in ELearning From a Learner's Perspective. In: European Journal for Distance and Open Learning: http://www.eurodl.org/materials/contrib/2004/Online_Master_COPs.html

Ehlers, U.-D., Goertz, L., Hildebrandt, B. & Pawlowski, J. M. (2005): Quality in e-learning – Use and dissemination of quality approaches in European e-learning. http://www2.trainingvillage.gr/etv/publication/download/panorama/5162_en.pdf Cedefop panorama series: 116. Tessaloniki: Cedefop.

ENQA (2004): The quality convergence study project. Self analysis document from the Norwegian Agency for Quality Assurance in Education (NOKUT). http://www.enqa.net/files/Norwegian%20self-evaluation%20document.pdf (Retrieved 20.2.2005)

ENQA (2005): Standards and Guidelines for Quality Assurance in the European Higher Education Area. http://www.enqa.net/files/ENQA%20Bergen%20Report.pdf (Retrieved 20.2.2005)

EQO (n.d.): http://www.eqo.info/ (Retrieved 28.2.2005)

EQO (2003): European Quality Observatory – The EQO Model. http://www.eqo.info/files/EQO_Model1.1.pdf (Retrieved 28.2.2005)

EQUIPE (n.d.): http://equipe.up.pt/ (Retrieved 28.2.2005)

European Commission (2001): *The eLearning Action Plan Designing tomorrow's education. Communication from the Commission to the council and the European Parliament.* COM(2001)172 final. http://europa.eu.int/eur-lex/en/com/cnc/2001/com2001_0172en01.pdf (Retrieved 20.2.2005)

European Commission (2003): *COMMISSION RECOMMENDATION of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises.* (2003/361/EC). Retrieved 1.3.2005 from Official Journal of the European Union, 20.5.2003, L124/36 http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_124/l_12420030520en00360041.pdf

European Commission (2003): *The New SME Definition. User guide and model declaration. Enterprise and Industry Publications.* *http://europa.eu.int/comm/enterprise/enterprise_policy/sme_definition/sme_user_guide.pdf* (Retrieved 1.3.2005)

EVTA (2005): *Selected e-learning in vocational training – good practices collection. Final report.* Brussels: EVTA

Future Ed. (2002): *Consumers Guide to E-Learning.* http://www.eqcheck.com/eq/english_final.pdf (Retrieved 1.3.2005)

Ingham, E (1991): Voluntary accreditation in Europe? *Epistolodidaktika 1991:1 s 78-82.*

ISO 8402: Quality management and quality assurance –Vocabulary.

ISO/IEC JTC1 SC36 (n.d.): Press Release - The New Quality Standard for E-Learning: Enabling Global Quality Development. http://www.besanet.org.uk/besa/documents/grab/IST43-0032-06ISOIEC19796-1eLearningQualitypressreleaseFINAL.pdf?item=551&file=1 (Retrieved 1.3.2005)

ISO/IEC (2005a): 19796-1: *Information technology -- Learning, education and training -- Quality management, assurance and metrics -- Part 1: General approach.* Geneva: ISO.

ISO (2005b): Description of ISO/IEC 19796-1. Retrieved 28.2.2005. http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=33934&COMM

Juran, J. M. (1988): *Quality Control Handbook.* N. Y., McGrawHill.

Kaplan-Leiserson, E. (n.d.). Glossary. Learning Circuits. http://www.learningcircuits.org/glossary.html (Retrieved 20.2.2005)

Karow, W and Storm, U (1975): Criteria for the evaluation of distance teaching courses by state authorities. E. Ljoså (ed.): *The system of distance education. Papers to the 10th ICCE International Conference*, s 72-83. Malmö: ICCE.

Keegan, D. (1996). *Foundations of distance education*. (3rd Ed.). London: Routledge.

Keegan, D. (2000, April). Seamless interfaces: from distance education to web based training. *Istruzione a distanza, 16,* 7-21. http://www.nki.no/eeileo/research/seamless.htm (Retrieved 20.2.2005)

Komáromi, L., Zárda, S., Szabadi, A. & Bardócz-Tódor, I. (2004): QUIS analysis projects on Quality in e-learning. http://www2.tisip.no/quis/public_files/wp2-QUIS-analysis-quality.pdf (Retrieved 21.2.2005)

McConnell, D. (2000). *Implementing computer supported cooperative learning.* London/Sterling: KoganPage.

ODLQC (2000)): http://www.odlqc.org.uk/odlqc/n19-e.htm (Retrieved 20.2.2005)

QAA (1999): Guidelines on the Quality Assurance of Distance Learning. Gloucester: QAA.

Qual E-learning (2004a): Handbook of Best Practices for the Evaluation of E-learning Effectiveness. QualElearning_handbookBPforElearningQualityEN.pdf (Retrieved 28.2.2005)

Qual E-learning (2004b): http://www.qual-elearning.net/ (Retrieved 28.2.2005)
QUIS (n.d.): http://www2.tisip.no/quis/index.php (Retrieved 28.2.2005)

Paulsen, M. F. (2003): Paulsen, M. F. 2003. *Online Education and Learning Management Systems. Global E-learning in a Scandinavian Perspective*. Bekkestua: NKI Forlaget.

Pawlowski, J. M. (2006): Adopting Quality Standards for Education. CEDEFOP.

Rathore, H. & Schuemer, R. (1998) *Evaluation Concepts and Practice in selected Distance Education Institutions.* ZIFF-Papiere 108. Hagen, FernUniversität.

Reglin, T. (2006): e-learning quality and standards from a business perspective.

Rekkedal, T. (1999): *Courses on the WWW - Student experiences and attitudes towards WWW courses - II.* Evaluation report written for the Leonardo Online Training Project, MMWWW. http://www.nettskolen.com/forskning/42/mmwwwev41.html
(Retrieved 20.2.2005)

Remien, O. (1994): *Distance Education and Economic and Consumer Law in the Single Market.* Brussels, European Commission.

Rumble, G. (2000): The Globalisation of Open and Flexible Learning: Considerations for Planners and Managers. *Online J. of. D. L. Adm., 3,3.* State University of West Georgia.

SEVAQ (2005): http://www.sevaq.com/index.php?page=0 (Retrieved 28.2.2005)

Schuemer, R. (1991) *Evaluation Concepts and Practice in selected Distance Education Institutions.* Hagen, FernUniversität.

Schwarz, S. & Westerheijden, D. (2003): *Accreditation in the framework of evaluation activities. A study in the European area.* Unpublished.

Skår, D (1981): State support and control of correspondence education. *Epistolodidaktika 1981:2, s 32-40.*

TRIANGLE (2004): Project Summary. http://europa.eu.int/comm/education/programmes/elearning/projects_2004/triangle.pdf (Retrieved 28.2.2005)

Tulloch, J. B. & Sneed, J. R. (2000). *Quality enhancing practices in distance education: Teaching and learning*. Washington, DC: Instructional Telecommunications Council. (Cited from Wirth 2005).

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. http://www.flyspesialisten.no/vfs_trd/ufd/5QAEurope.pdf (Retrieved 21.2.2005)

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.

Weinstock, N. et al. (1976): *Les cours par correspondance du secteur privé en Belgique. Brussel*. Centre National de Sociologie du Droit Social.

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)

In addition to the literature referred to in the bibliography, this article draws on the following previous monographs, articles and conference papers:

Ljoså, E. & Rekkedal, T. (1993): *From External Control to Internal Quality Assurance*. NADE, Oslo. (http://www.nettskolen.com/forskning/17/tallinn.htm)

Ljoså. E. & Rekkedal (1994): From External Control to Internal Quality Assurance: the Background for the Development of NADE's Quality Standards for Distance Education. In: Kirkwood, A., Lefrere, P. " Mann, K.: *Human Resources, Human Potential, Human Development: The Role of Distance Education.* Proceedings EDEN Conference, Tallinn, Estonia, 6-8 June, 1994.

Rekkedal, T. (1996): Quality of Education Produced and Delivered by Different Institutions. Invited paper to *Open and Distance Learning – Enhancing Mobility in Europe. The Future with Socrates.* Conference for the Evaluation of Eurpoean Intern-University Cooperation in

the Field of Open and Distance Learning. Espoo, Finland, 3-4 May 1996. (http://www.nettskolen.com/forskning/30/quality.htm)

Rekkedal, T. (2003): Quality Assurance in Norwegian Distance Education - the Background for NADE's Quality Standards with Reference to some European Initiatives. In: Hansson, H. & Holmberg, C. (eds.): *Eight Contributions on Quality and Flexible Learning. Report 3:2003.* Hässleholm, Swedish Agency for Flexible Learning.

Rekkedal, T. (2004) Internet Based E-learning, Pedagogy and Support Systems. In: Brindley, J. A., Walti, C. & Zawacki-Richter, O. (eds.): Learner Support in Open, Distance and Online Learning Environments. ASF Series Volume 9, pp. 71-94, 2004. Carl von Ossietzky University of Oldenburg.

Rekkedal, T. & Qvist-Eriksen, S. (2004): Students' needs for and satisfaction with support services in e-learning. Third EDEN Research Workshop 2004, Oldenburg, Germany. In: European Journal for Distance and Open Learning: Support Services in E-Learning - an Evaluation Study of Students' Needs and Satisfaction. http://www.eurodl.org/materials/briefs/2004/Rekkedal_Qvist-Eriksen_EA.htm

Promoter: CECOA – Centro de Formação Profissional
para o Comércio e Afins (Portugal) **www.cecoa.pt**

BFI - Austria Berufsforderungsinstitut (Austria)
www.bfi-stmk.at

Forschungsinstitut Betriebliche Bildung (f-bb) gGmbH (Germany)
www.f-bb.de

University of Tartu, Open University Centre (Estonia)
www.ut.ee

Confederació de Comerē de Calalunya (Spain)
www.confecomercat.es

ProfitWise (Netherlands)
www.profitwise.info

NKI Distance Education (Norway)
www.nki.no

Education and Culture
Leonardo da Vinci
Pilot projects

This project has been funded with support from European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.