

# CASE STUDY

## Quality Assurance & Assessment Concepts in Continuing Education and Training in the Czech Republic

Model concept and approach  
applied at the Brno University of Technology

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**List of abbreviations**

BSI	British Standards Institution
BUT	Brno University of Technology
CAL	Computer Aided Learning
<b>CSI</b>	<b>Customer Satisfaction Index</b>
CEDEO	Dutch organisation providing information on mgt. training programmes and institutions
CEO	Chief Executive Officer
CERTIKED	Dutch certification body for knowledge intensive services (incl. training and consultancy)
CEU	Continuing Education Units
CIMA	Czech Institute for Marketing
COP	Certification Body for Personnel
COSJ	Certification Body for Quality Systems
ČIA	Czech Institute for Accreditation
CSQ	Czech Society for Quality
EFMD	European Foundation for Management Development
EFQM	European Foundation for Quality Management
EMS	Environmental Management System
EOQ	European Organisation for Quality
EQA	European Quality Award
EQPP	European Quality Policy Promotion
EQUAL	European Quality Link
EQUIS	European Quality Improvement System
ETF	European Training Foundation
<b>E&amp;T</b>	<b>Education and Training</b>
EVOS	Evaluation of Schools of Higher Vocational Studies
FEACO	European Federation of National Associations of Consultancy Firms
FEDA	Further Education Development Agency
FEFC	Further Education Funding Council
FTA	Fault Tree Analysis
HAZOP	Hazard and Operability Analysis
HEFCE	Higher Education Funding Council of England
HEQC	Higher Education Quality Council
IIP	Investors in People
IQA	Institute for Quality Assurance
MBA	Master of Business Administration
MCI	Management Charter Initiative
NQA	National Quality Awards
NTCI	National Training and Consultancy Index
NTF	National Training Fund
NVQ	National Vocational Qualification
PDCA	Plan, Do, Check, Action
QAMT	Quality Assessment and Quality Assurance of Management Training
QAA	Quality Assessment and Assurance
QFD	Quality Function Deployment
SPC	Statistical Process Control
SQMS	Scottish Quality Management System

## 1. The introduction

Quality becomes more and more an “order-winning factor” for E&T institutions. Unlike the situation in advanced EU countries (in particular the UK, Netherlands and others) the application of a formalised quality system is not a common practice in the Czech Republic (nor in Central and Eastern Europe in general). There is still even no motivation of E&T institutions to implement a formalised quality system, since it is still not an emphasised entry requirement from the client organisations, when subcontracting E&T services. Nevertheless the situation is going to change after the Czech Republic joins the EU. In order to compete effectively on the joint E&T market in Europe, we will have to follow some standards. The effective quality system will be one of important expectations for successful bidding for E&T contracts.

The quality system includes all processes necessary for ensuring effective service, beginning with marketing and ending with delivery, and also includes an analysis of service provided to clients. By a service we understand results generated by activities at the interface between the supplier (a training institute) and the customer (client), and by internal activities of the supplier to meet client needs. The key processes related to education and training can be seen in [Figure \(1\)](#).

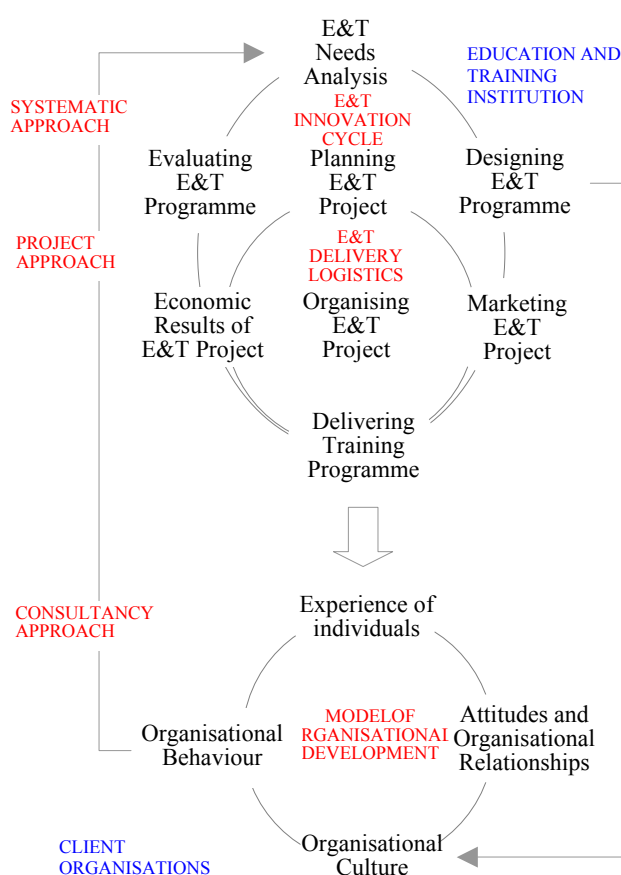


Figure (1). Model of key E&T processes and organisational development

The [Figure \(1\)](#) identifies the following 2 main processes:

1. Processes related to the E&T innovation cycle:
  - a) E&T needs analysis
  - b) Designing E&T programmes
  - c) Delivering E&T programmes (in terms of methodology)
  - d) Evaluating E&T programmes

The cycle of processes above represents the so called *systematic approach* to E&T.

## 2. Processes related to the E&T delivery logistics

- e) Planning E&T projects
- f) Marketing E&T projects
- g) Organising E&T projects
- h) Economic results of E&T projects

The *project approach* is considered as the most relevant management approach to managing education and training activities.

The relationships of E&T institutions with clients are demonstrated in the cycle representing at the same time the model of the organisational development. There are the following key elements of the cycle:

- a) Experience of individuals
- b) Attitudes and organisational relationships
- c) Organisational culture
- d) Organisational behaviour

The improvement of organisational behaviour is an essential interest of the client organisations. The behaviour reflects organisational culture, which is the expression of quality of attitudes and relationships in the organisations. Finally the key to the cycle is the experience of individuals. An essential tool for improvement of the change of organisational culture and finally organisational behaviour is influencing the experience of individuals. The most effective tool for experience change is the E&T. That is why it is beneficial for both the E&T institution and the client organisation to build long-term partnership based on a systematic consultancy approach for improving the processes in the client organisation.

Such a long-term partnership should be built on some principles of quality. The effective system of quality assurance is one of essential guaranty. One of the general principles of quality assurance is that all inputs including subcontractors shall be quality assured. It means that the E&T institutions, which are providers of E&T should prove the quality of their processes, which is an essential necessary (but, of course, not satisfactorily) condition for delivering quality products, i.e. E&T services.

On the basis of general observations and experience from various education and training institutions in the Czech Republic (and other Central and Eastern European countries) however there are a number of various statements and/or attitudes identifying different level of understanding of quality assurance among the educationalists. This was clear from the analyses and monitoring conducted within the Phare Multi-country Programme (for distance and higher education):

1. *“Quality assurance is E&T participants feedback questionnaires...”*
2. *“Quality assurance is accreditation...”*
3. *“Quality assurance is the ISO standards...”*

All the above statements represent a different level of complexity of the view of quality and quality assurance. For example, the feedback questionnaires are only (and usually a very basic) component of the wide variety of quality evaluation tools. They should not be considered enough for quality assurance itself. In addition questionnaires are linked more to the immediate evaluation of the students learning “feelings” and assessment of the training delivery process rather than quality of provided education and training.

The same concerns the accreditation. Accreditation is also only one of the components of the quality assurance. It usually represents the process and conditions leading to the academic (or other) recognition of the courses in the country (or in the international context). This is however only one of many processes related to actual quality control of the delivery.

The ISO approach, on the other hand, (in particular ISO 9004.2000, which is relevant for education as a service) represents a more complex approach. It shall however be considered, that ISO needs implementation and it is also not the only quality assurance concept applicable and used in the education and training sector.

In some cases educational managers also refer to the existing quality assurance system available in the given institution (e.g. the university) without any further specification of processes and ways in which

the quality assurance standards and processes are implemented. In addition the general experience showed that in many institutions and specifically universities no written executive quality assurance guidelines were available or only very generic statements without any description of processes were expressed.

In order to analyse various concepts and identify the current status of quality assurance in the Czech Republic and abroad, the following survey was conducted.

## 2. Basic Quality Assurance and Assessment Concepts

As explained in more detail further on, the term „quality“ of a product or service means „the totality of features and characteristics which bear on its ability to satisfy the needs or requirements of the customer (user, client). In order to assess quality, we must therefore know, who is the customer and what his/her requirements are relative to a number of individual attributes, which together constitute quality. The service in question is „education & training“ which for our purposes we define as the process of transfer of knowledge and skills about the given subject from the teacher/trainer to the student/participant using predominantly active learning methods.

Quality management is a subject of extreme complexity and multidimensionality. However a general control/management system, applicable in any organisation, includes the following 5 activities:

- setting of goals to be reached, determining methods to be used for their achievement at economically acceptable costs, delimiting responsibilities and authority and issuing directives for goal fulfilment,
- coordinating efforts during the ensuring of organisational, material, financial, human and other resources for the achievement of goals,
- checking the fulfilment of directives and goals,
- feedback with corrective action in the case of non-fulfilment,
- continuous efforts at improving the performance of the organisation.

A basic principle of all activity was accepted as the motto PDCA (Plan, Do, Check, Act).

Recognition of the significance of quality control of all activities, processes and final products for general management led to the concept of Total Quality Control or to the Japanese equivalent „Company-wide Quality Control“. The previous predominantly technically oriented activity of quality control had now been extended to include:

- coordination of all company activities directed at the creation of product quality, be they performed by whatever department of the company, from marketing to customer service,
- motivational aspects and involvement of people,
- economic aspects,
- emphasis on feedback and prevention.

The concept of Total Quality Management (TQM) as a leading principle for companies' excellence was introduced with several key attributes, of which the most important are: leadership of top management, orientation at customer satisfaction, utilising the creative abilities of employees, basing decisions on objective measured data and implementing continuous improvement.

The latest quality management concepts are complemented by the concept of “Investors in People” (used in the UK), which puts an emphasis on employees, who are considered as the most valuable resource of organisations as well as the source of quality.

The minimal requirements for a so-called quality assurance system (abbreviated quality system) were incorporated into the series of international standards ISO 9000 (updated now to standards ISO 9000:2000), with emphasis being placed on the possibility of demonstrating that such a system is implemented in the supplier's organisation. A certification scheme began to be applied all over the world according to the standards ISO 9001, 9002 and 9003. The principles of quality management have started to be applied in organisations offering services, including education and training as well as consulting institutions according to the standards ISO 9004.

Some companies however still prefer to apply the principles of TQM and give priority to continuous improvement, led by top management and supported by employee involvement. This non-standardised

model of a quality system, known as TQM has become the basis of national and international quality awards in different parts of the world.

The ISO model is highly systems oriented, resulting in a documented, implemented, regulated system of QA. It is a standard based approach to improving quality and effectiveness of any organization based on standards. The requirements and recommendations for such a quality management system (QMS) under either contractual or non-contractual conditions are published in the series of international standards ISO 9000-9004 „Quality Management and Quality Assurance Standards“. These standards constitute a synthesis of the best world practice in quality control and assurance and form the basic minimum of a quality management system.

The Quality Awards model is based on the application of Total Quality Management (TQM) [28]. It contains all the elements of ISO model, but in addition applies several techniques and principles, which are only emphasised in a small way in ISO model (e.g. using potential human knowledge and skills for the systematic solution of problems, using modern tools and methods to implement continuous improvement). The motivational element of Quality Awards model is achieving competitiveness, business success and development and in particular the satisfaction of all stakeholders - customers, owners, and the community.

Recently in particular private E&T institutions have begun to realise the competitive advantage that could be gained by applying to their own activities some of the principles of quality management, especially in order to meet the needs of their customers. In this way they were able to improve their performance and reputation as quality E&T providers.

## 2.1 Basic conceptual instruments and methods of quality assurance and assessment

To properly describe methods for assuring the quality of management training, it is necessary to define and introduce certain conceptual instruments.

Quality assurance consists of all planned and systematic activities implemented within the framework of a given quality system and, demonstrated as needed to provide adequate confidence that an entity will fulfil requirements for quality (ISO 8402). The following internal and external reasons exist for quality assurance:

- a) internal quality assurance: within an organisation, quality assurance provides confidence to the management;
- b) external quality assurance: in contractual or other situations, quality assurance provides confidence to clients and/or other participants.

If requirements placed on quality do not fully express the client's needs, quality assurance may not provide adequate confidence. Quality assurance in E&T area means in the first place fortifying confidence in fulfilling requirements placed on quality both within the E&T organisation and outside it in relation to clients (participants in the E&T and their institutions) and to other professional associations or bodies (association, etc.). To assure quality a certain quality assurance system (abbreviated as quality system) has to be defined.

Quality system is defined as an organisational structure, procedures, processes and resources for implementing quality management (ISO 8402). The quality system should be as comprehensive as needed to meet the quality objectives. The quality system of an organisation is designed primarily to satisfy internal needs of the E&T organisation's management. It is broader than the requirements of a given client who assesses only that part of the quality system, which concerns him. For purposes of contractual or compulsory quality assessment it may be necessary to prove that certain elements of the quality system have been duly implemented. In the training field, the quality system consists above all of marketing (what type of training should be offered), design (preparing an E&T programme and its didactic assurance), providing training (by teachers/lecturers/ trainers, the training process proper and its organisational assurance), assessing and improving the quality. All of these four main quality elements shall be described from the point of view of the organisational structure, procedures and processes, including specification of all necessary resources for implementing quality management.

Organisational structure (order) consists of responsibilities, authorities and mutual relations arranged in a pattern by means of which the training organisation performs its functions (ISO 8402). Every E&T shall create its own organisational structure in accordance with its competence and size.

Process is a set of mutually interlinked resources and activities, which transform inputs into outputs (ISO 8402). Resources may include personnel, finances, facilities, equipment, techniques and methods. In the training field, the main processes consist of defining requirements, selecting and training lecturers/trainers, preparing teaching/training materials, the training process proper, checking and assessing quality characteristics of training, improving the quality, etc.

Procedure is a specified way of performing activities (ISO 8402). In many instances, procedures are documented (such as procedures concerning the quality system). If the procedure is documented, use is frequently made of the term "written procedure" or "documented procedure". The written or documented procedure generally contains the following: the purpose and subject of the activity; what is to be done and who shall do it; when, where and how shall it be done; what materials, equipment and documents shall be used; how shall the activity be controlled and the results recorded. In the training field, the main procedures include procedures for defining requirements, selection and training of lecturers/trainers, preparation of teaching materials and the teaching process proper, checking the quality characteristics of training, improving the quality, etc.

Quality management represents all activities of the overall management function which set the quality policy, objectives and responsibilities and implement them by such means as quality planning, quality control, quality assurance and quality improvement within the framework of the quality system (ISO 8402). Quality management is the responsibility of all levels of management, but must be guided by the top management. Its implementing is a matter of all members of the organisation. In quality management, the economic viewpoint shall also be taken into consideration. In training, quality management shall be the responsibility of the head of the training organisation and all of its members, particularly its lecturers/trainers.

Quality planning consists of activities, which establish objectives and requirements for quality and for application of quality-system elements (ISO 8402). In training, quality planning includes the following:

- planning of training programmes and teaching materials, identification, classification and determination of the weight of characteristics with regard to the training quality as well as establishing objectives, requirements for the quality of lecturers and limiting factors,
- planning of control and operation: preparations for implementing quality, including organisation process and time schedules,
- preparing quality plans and measures for improving the quality of training.

Quality control represents operational techniques and activities used to fulfil quality requirements for quality (ISO 8402). The quality control includes operational methods and activities directed both at monitoring the process and eliminating causes of unsatisfactory performance at relevant stages of the quality loop in order to achieve economic effectiveness. Some quality control and quality assurance activities are mutually interlinked. In the field of training, quality control consists of the following:

- in each process, identifying key activities, which substantially affect training provision;
- analysing key activities for selecting those characteristics, the measurement and control of which assure the quality of training;
- establishing methods for assessing selected characteristics;
- creation of means for influencing or controlling characteristics within specified limits.

The quality-assurance model consists of a standard or selected set of requirements placed on the quality system, interlocked in such a way as to satisfy the need for quality assurance in a given situation (ISO 8402). In the E&T area, mainly the following methods (models) or their combination may be used in quality assurance:

- a) selection, training (specialist and pedagogic), certification and accreditation of lecturers/trainers;
- b) use of various competence standards for defining the content and form of management training,
- c) own research, participation in solving management problems in organisations, setting up partnership relations;
- d) inspection visits to the lecturer's training session and assessment of pedagogic processes;
- e) testing participants in the training and their certification;
- f) comparative studies, benchmarking;
- g) organisational structure and ensuring processes in the training organisation;
- h) self-assessment
- i) quality assessment by colleagues (peer review);
- j) application of the ISO 9000 series of standards and subsequent certification by a third party;



k) total quality management (TQM) according to national quality award criteria.

Advantages and disadvantages of these methods are listed in [Table \(1\)](#). It is quite reasonable to suppose that the use of only a single method [with the exception of methods (j) and (k)] cannot ensure the required quality of E&T process in a comprehensive and systematic manner. If, for example, the E&T organisation will devote itself only to solving the problem of selecting, training and certifying lecturers [item (a)], while it will thereby ensure the most important quality element in training, quality problems are certain to arise elsewhere, such as in the organisational structure and in ensuring processes in the training organisation, etc. In this connection, it can be said that the systematic approach to quality assurance of management training is ensured by the application of the ISO 9000 series of standards with subsequent certification by a third party [item (j)], with the comprehensive and systems approach being ensured by application of total quality management (TQM), based on the ISO 9000 standard and national award criteria [item (k)].

Method	Advantages	Disadvantages
<b>a) Selection, training (specialist and pedagogic) and certification of lecturers</b>	Specialist and pedagogically educated competent lecturers are available, able to provide E&T at the required and anticipated quality level to ensure, assess and raise the quality of training.	Specialist training of lecturers is ensured with difficulty, certification and accreditation bodies for this profession are missing, costs for their selection, training, certification, accreditation and their labour automatically increase.
<b>b) Utilisation of various standards for defining the content and form of management training</b>	This increases the compatibility between the individual E&T organisations and management competencies and better specifies the content and forms of the provided E&T, provides a basic requirement standard, and application of these standards raises the level of below-average and average E&T organisations.	Standardisation activities require foremost specialists in the given field and E&T and correlated financial means. At the given moment of its acceptance, each standard limits the process of recognition, development and improvement, and its application is a certain brake on the development of above-average (peak) E&T organisations.
<b>c) Own research, share in solving management problems in enterprises and setting up partnerships with these enterprises</b>	The E&T institution's own specialist experiences grow as do those of its lecturers and other personnel, the content and form of the training programmes become enriched, new case studies are created, greater use is made of computer techniques and strategic partnership relations lead to continuous improvement in the provided services and to better economic results.	Demands placed on the capacity of the E&T organisations grow, mainly qualification, theoretical and practical skill of the lecturers and other personnel, including greater demands placed on preparing and organisational ensuring of these strategic partnership relations.
<b>d) Inspection visits to the lecturer's training session and assessment of pedagogic processes and their results</b>	These provide basic input data for assessing and improving the quality of E&T and enable necessary feedback between the E&T organisation and its clients.	Inspection visits to the lecturer's training session require certain work capacities. For assessing processes it is necessary to train the lecturers, prepare a system of questionnaires and their assessment. These activities always contain a certain degree of subjectivity.
<b>e) Examining training participants and their certification</b>	This is an important motivating element for the client's self-training activities, enables diagnosing the results of training, professional certification mainly standardises (increases the compatibility of) required know-how and skills, including other competences.	This requires preparing diverse questions and requirements placed on the individual competence elements of managers, preparing a certification system and structure. This leads to a certain degree of standardisation and thus also to preserving the present level of cognition.

<b>f) Comparison study, benchmarking</b>	This makes it possible to obtain information on E&T processes, which are recognised as the best, and enables determining priorities for quality improvement and their solution leads to competitive advantages.	This requires obtaining information from leading E&T institutions on their processes used in providing E&T (sometimes difficult to acquire), requires sufficient capacity for data collection, their analysis and evaluation.
<b>g) Organisational structure of processes in training organisations</b>	This concretely and clearly delimits the responsibilities and authorities of individual E&T organisation's personnel and key processes (selecting and training lecturers, preparing E&T programmes and training aids, their evaluation and improvement, etc.) are sufficiently defined. This precludes evasion of responsibility and introduces order in the organisation.	The firmly delimited organisational structure and the strictly defined processes partly restrict the initiative and creative potential of the E&T organisation's personnel. Preparation of the organisational structure and specification of processes requires greater capacities and increases initial costs of the training organisation. This item concerns only a given element of the quality system and does not cover the total quality system.
<b>h) Self-assessment</b>	The process of self-assessment takes place within the training organisation by its own personnel who know best the strong and weak points of assuring quality of the provided E&T and can quickly react to needs for improvement in E&T quality and flexibly implement both remedial and preventive measures.	The process of self-assessment always requires the use of a certain quality-assurance model, formalised into quality characteristics and generally expressed by criteria questions and requirements. Selection of this model may be a subjective matter. The E&T organisation's own assessment personnel requires special training and their conclusions may not express objective facts, particularly as far as information intended for clients is concerned.
<b>i) Quality assessment by peer review</b>	The quality assurance system of an E&T institution is assessed and evaluated by an invited or delegated independent party. Most of these assessors have the same specialist profile and know the training programmes well. The employed standard quality-assurance model is usually well elaborated and generally approaches the standard model. Results of assessment by a peer evaluation are generally objective and serve not only as good inputs for improving the quality but also for obtaining a given certificate or accreditation, which is a frequent membership condition of various selective professional associations. The results may also be used for various informative materials, which serve potential clients for selecting the right E&T organisation and programme.	The cited method of assessing and evaluating provided E&T requires extra expenditures and increases costs of the assessed E&T organisation. For many clients (particularly those who already possess a similar certificate), the issued certificate on peer evaluation of E&T does not possess the same weight as a quality system certificate according to the ISO 9000 standard or a certificate on winning a national quality award. Remedial measures are made by other personnel, so that distortion may occur in the transfer of information on the need for improving quality, both in the area of remedial and preventive measures.
<b>j) Application of the ISO 9000 series of standards with subsequent certification by a third party</b>	The quality-assurance model is characterised by a systems approach and is standardised (ISO 9001). This model is widespread and most enterprises not only accept and apply it, but require it from their suppliers, including training	The general form of the standard quality assurance model (ISO 9001) requires adaptation of E&T organisations by means of the directive for services (ISO 9004-2), which introduces a certain degree of subjectivity. Implementation of this

	<p>organisations. Subsequent certification by an independent third party provides written assurance that the E&amp;T is in accord with the specified requirements. The awarded certification increases credibility and competitiveness of the E&amp;T institution. The implemented and maintained quality-assurance model creates conditions for excellent E&amp;T provision. With the use of feedback information from clients it also offers possibilities for improving and developing the E&amp;T organisation.</p>	<p>quality system into E&amp;T organisations is exacting as far as capacity is concerned, both in time (about 1 year) and in financial means. Maintaining the system requires administrative discipline and a good information system. Making changes creates a further administrative load. The model has a rather static character and does not require solving the economic effectiveness. Certification of the implemented quality system requires renewal, an independent third party and, thus, additional costs connected therewith.</p>
<p><b>k) Total quality management (TQM) based on the ISO 9000 standard and national quality award criteria</b></p>	<p>The quality assurance model is characterised by a comprehensive systems approach [it may contain all methods of quality assurance listed in this table, particularly those in item (i)] and has a dynamic features with emphasis on engaging all members of the training organisation in continuous improvement of quality with the object of achieving not only maximum satisfaction of client requirements but also maximum efficiency and prosperity of the organisation. This quality assurance model ties in on the implemented and certified model according to the ISO 9001 standard and is fully in accord with the world trend in development of quality assurance. Formal confirmation of implementing and applying this model is generally the gaining and awarding of a national quality award. These two facts (ISO 9001 and TQM) create maximum client confidence and provide the E&amp;T organisation with prerequisites for playing a leading role in the market of providing E&amp;T.</p>	<p>This quality-assurance model (ISO 9001 and TQM) is the most exacting for implementing, certifying and verifying, for example, by winning a national quality award and mainly in that its maintenance requires absolute concentration on quality, and managerial excellence inside the E&amp;T organisation. It requires a considerable change in the culture of the E&amp;T organisation and engagement of all of its personnel in the process of improving the quality of the provided E&amp;T training, which calls for organising and providing training in quality management to its personnel. Implementing and maintaining this model is most expensive and places high demands on initial investment costs (which, however, return manifold). Certification and verification of the implemented quality system must be renewed, requires an independent third party and, thus, additional costs connected therewith.</p>

Table (1). Advantages and disadvantages of the individual methods for E&T quality assurance

Total quality management (TQM) is the approach of the organisation's management to quality, based on participation of all of its members, with the object of long-term prosperity achieved by satisfying the clients and welfare of the organisation's members as well as of society (ISO 8402). The expression "all of its members" concerns all personnel in all departments and at all levels of the training institution's organisational structure. A strong and lasting top management and education and training of all members of the organisation are a basic prerequisite for success of this type of management. In total quality management the concept of quality relates to achieving all objectives of the management. According to need, the concept "welfare of society" may be interpreted as fulfilment the community's requirements (such as fulfilment of legislative requirements, etc.). Total quality management or its parts are sometimes called "total quality", "CWQC" (Company-Wide Quality Control), "TQC" (Total Quality Control), etc. In training, total quality management is a target solution of quality assurance in training. In the present project, it practically interlinks the requirements of the ISO 9000 standard and criteria of the national quality awards.

Quality assessment consists of systematic examination of the extent to which an entity is able to fulfil specified requirements (ISO 8402). In the E&T field, quality assessment serves not only to evaluate competence of the lecturers/trainers and E&T institution to provide E&T and proving the attained quality level of participants and the E&T institution, but also for verifying results of the quality improvement process. Every method of assessing some entity, i.e. also education and training, is based on the principle of comparing the achieved (actual) level of the individual quality characteristics with a certain reference base, standard etalon (model of quality assurance, defined client requirements, best-practice of competitors, etc.), the aim of this assessment being not only as objective an assessment of the current level of education and training as possible, but also provision of motives and documents for quality-assurance and quality improvement. Generally, measurable results of the comparison are mathematically quantified and non-measurable results of the comparison are rated by subjective expert methods. Furthermore, both measurable and non-measurable characteristics are generally assigned a certain weight according to their significance and importance, again by subjective methods. The resultant quality level may be expressed by a multi-state model, such as a weighted mean, number of achieved rating points, etc. The simplest processing of results is based on a two-state model, the output of which is a scale (0, 1) - satisfactory or non-satisfactory (fulfils or does not fulfil) the specified requirements given by the reference base.

From the above it follows that there are four main problems in assessing the quality of E&T, namely:

- a) objective specification of quality characteristics, including quality assurance models as reference base;
- b) objective determination of the actually attained level of quality characteristics of management training;
- c) design (selection) of a suitable model for assessing attained results of comparison and their presentation;
- d) ensuring the accurate and effective implementation of the procedure.

In addition to the indicated quantification of the attained results, forming the basic principle of assessment, of perhaps even greater importance is a qualitative analysis of the attained level of the individual quality characteristics, their description with an enumeration of their strong and weak points. While the quantitative quality assessment model serves for quick orientation of its attained level, the qualitative-assessment model provides a most valuable basis for improving the quality, as it generally provides a detailed characteristic of the weak points of management training.

Quality assessment of management training is the more exacting the more quality characteristics are chosen and the greater the requirements placed on them, and vice versa. The basic areas of quality assessment of E&T are the following:

- a) E&T programmes based on marketing and contractual relationships;
- b) quality of the trainers;
- c) quality of the E&T institution's administrative control;
- d) quality system of E&T (in a systems approach this item contains in itself all of the above areas).

The problem of specifying quality parameters of E&T is described above. Objective determination of the actually attained level of quality parameters of E&T is the subject of the assessment proper and may be performed by the following:

- a) own personnel of the E&T organisation - this constitutes the so-called self-assessment, i.e. assessment of the E&T quality according to specified rules, performed by the party providing such training;
- b) clients - participants in the E&T process by means of diverse questionnaires and discussions
- c) clients - enterprises (employers) of participants in the E&T process by means of diverse questionnaires and discussions;
- d) invited or otherwise delegated personnel from other training organisations in the management field - this concerns the so-called peer review, i.e. assessment of the attained level of quality characteristics by experts in the same field of activity (colleagues) with the object of gaining information on the current quality level, documentation and improvement suggestions;
- e) personnel of a specific assessment organisation - this concerns the so-called assessment by a third party (such as an assessment commission of a management association, management organisations, consultancy organisations, certification organisations, etc.).

Each of the above assessment entities may approach quality assessment of E&T in two basic ways, namely:

- a) by selecting and employing their own (individual, non-standardised) assessment system, i.e. a set of quality characteristics and their more or less systematic arrangement, a set of recognition tools and a method for assessing the comparison results;
- b) by selecting and employing an assessment system based on a standardised quality-assurance model according to the ISO 9000 series of standards, or quality-award models which generally represent the principles of total quality management (TQM).

Quality improvement methods are measures taken in the whole organisation with the aim of increasing effectiveness and efficiency of activities and processes and offering increased profits to both the organisation and its clients (ISO 8402). Quality improvement in the E&T field is primarily based on evaluation by lecturers and participants in the E&T, including their organisations as well as all other interested parties, regular submission of reports to the head of the training organisation, adoption of remedial measures and their implementation with the object of providing a greater profit to both the organisation (economic) and to the clients (better know-how, gradually converted to economic effects). Thus, quality improvement is achieved by improving the processes. The effort to improve quality should be directed to the continuous seeking of opportunities for improvement, rather than to waiting until a problem arises which will disclose these opportunities. Of importance from this point of view is data collection and analysis, connected with providing E&T.

Correction of outputs of the E&T providing process diminishes or eliminates the problem, which has already occurred. Preventive and corrective measures eliminate or diminish causes of the problem and thus eliminate or diminish its future recurrence. Hence, preventive measures and corrective methods improve processes in the training organisation and form the key for quality improvement. Methodology of improving quality in training organisations is based on the following logical steps:

- a) involving all personnel of the E&T organisation in quality improvement;
- b) generating topics for initiating projects or activities connected with quality improvement on the basis of identifying priority shortcomings and their quantification;
- c) localising E&T shortcomings in space and time by data collection and analysis (e.g., the Pareto analysis);
- d) determining the cause-and-effect relationship, e.g. by means of the Ishikawa diagram;
- e) adopting corrective measures, preventive measures or basic changes aimed at improvement;
- f) confirming improvements on the basis of data collection and analysing new information to confirm that improvement has been achieved;
- g) maintaining the achieved improvement by ensuring that implemented changes will become an integral part of the work of not only every lecturer/trainer but also of all other involved personnel of the training organisation;
- h) continuing improvement by implementing new training-programme projects or activities connected with quality improvement.

The above steps are based on the PDCA cycle (Plan, Design, Control, Action).

In general, it is important to direct E&T quality improvement activities (including evaluation) at the following basic areas:

- a) the E&T programmes;
- b) the quality of lecturers/trainers;
- c) the administrative and managerial function of the E&T organisation;
- d) the quality management system of E&T (from a total and systematic point of view this item includes all of the areas cited above and below).

These basic areas of quality improvement may be expanded to include other related and supporting fields, namely:

- a) the purpose and mission of the E&T institution;
- b) the contact with clients in specifying E&T requirements placed on the content and form of training, including utilising and applying of the results of E&T at the client's place of business;
- c) research and development activities in the E&T organisation;
- d) contribution to the development of regional, national and international communities;
- e) development of the E&T organisation, its performance, resources and economic effectiveness;
- f) co-operation with practice (with clients in the form of consultancy and research activities);
- g) co-operation with foreign E&T and other organisations.

## 2.2 Tools and Methods for Quality Assurance and Assessment

In order to analyse data related to quality assurance and assessment a certain set of methods and tools can be applied. All personnel (particularly the lecturers/trainers) of the E&T organisation should be trained in applying these quality improvement tools and methods so as to improve processes in their training organisations. Because this method is a basic TQM tool, it is equally important to incorporate this quality-management module also into E&T programmes.

### 2.2.1 General methods and tools

The individual tools and methods used in improving the quality of E&T are described in [Table \(2\)](#).

Tools and techniques	Applications
<b>Data-collection form/log</b>	Concerns questionnaires intended for systematic data collection for obtaining a clear picture of facts connected with providing management training.
<b>Tools and techniques for qualitative data</b>	
<b>Affinity graphs</b>	Used for grouping a large numbers of ideas, opinions or other factors concerning a certain element (topic) of management training.
<b>Benchmarking</b>	Used for comparing training processes and their results - of one's own training organisation with another mature and recognised training organisation - to identify opportunities for improving the quality of management training with the use of point-rating evaluation.
<b>Brainstorming</b>	Used for determining possible solutions of problems and possible opportunities for improving the quality of management training.
<b>Cause-and-effect diagram</b>	Used for analysing relationships between causes and effects and providing information. It also serves to facilitate solving problems (shortcomings in the management training), from symptom to cause and solution.
<b>Flow diagram</b>	Used for describing an existing process and/or designing a new process in the training organisation.
<b>Tree diagram</b>	Used for illustrating the relationship between a topic and its component parts in management training.
<b>Tools and techniques for quantitative data</b>	
<b>History graph</b>	Used for illustrating a variable-data model for conveying information on process behaviour.
<b>Pareto diagram</b>	Used for illustrating the degree of contribution of each factor to the overall effect and for taking a decision on where to direct efforts for improving the quality of management training.
<b>Scatter diagram (correlation/regression relationship)</b>	Used for disclosing and confirming correlations between two related sets of data.
<b>Customer satisfaction index (CSI)</b>	Used for quantitative evaluation of the client satisfaction on the basis of analysis of feedback questionnaires.

[Table \(2\)](#). Tools and techniques applicable for improving the E&T quality (ISO 9004-4)

### 2.2.2 Customer satisfaction index

Effective quality systems should always utilise the principle of feedback. In order to improve the quality of E&T process, it is common to measure the degree of customer (client) satisfaction. In general the client satisfaction is understood as the totality of impressions (sensations) stemming from the gap between the expectations or needs of clients on the one hand and perceived reality during the training process. Such index serves training institutions in comparing training programmes in the sense of benchmarking with other institutions but also serves potential clients in making an objective selection of a training programme and institution.

The index, which is titled Client Satisfaction Index (CSI), is calculated on the basis of indications in the feedback questionnaires completed by E&T programme participants ([see the proposed example in](#)

the next page). In order to calculate the index of client satisfaction over a given period of time (e.g. year) for the  $i$ -th training institution and for the  $m$ -th training programme the following expression can be used :

$$CSI_p = \sum_{i=1}^I w_i U_i = \sum_{i=1}^I w_i \sum_{j=1}^J w_{ij} U_{ij} = \sum_{i=1}^I w_i \sum_{j=1}^J w_{ij} \frac{1}{K} \sum_{k=1}^K U_{ijk}, \text{ where}$$

- $I$  the number of assessed areas in the questionnaire. In particular these areas are usually: *Course evaluation, Lecturers/Trainers, Learning materials, Organisation*, i.e.  $I=4$  (see the proposed questionnaire)
- $J$  the numbers of assessed criteria (within one area),
- $K$  the number of completed questionnaires by clients (participants) over a given period of time (e.g. year) (index  $k$ )
- $U_i$  the rating (weighted average) for the  $i$ -th area over all  $J$  evaluated criteria in the area
- $U_{ij}$  the average rating for the  $i$ -th area for the  $j$ -th criterion over all  $K$  completed questionnaires during the given time period,
- $U_{ijk}$  the point rating of the  $i$ -th area,  $j$ -th criterion and  $k$ -th completed questionnaire (in the proposed questionnaire this rating can assume the values 5,4,3,2,1,0),
- $w_i$  the weight assigned to the  $i$ -th area. Proposed weights of areas is as follows:
- $w_1 = 0,25$  Course evaluation
  - $w_2 = 0,35$  Lecturers/trainers
  - $w_3 = 0,20$  Programme learning materials
  - $w_4 = 0,20$  Organisation
- $w_{ij}$  the weight assigned to the  $j$ -th criteria in the  $i$ -th area. Proposed weights are as follows:
- Course evaluation
    - $w_{11} = 0,30$  Benefit for my job
    - $w_{12} = 0,15$  Benefit for my personal development
    - $w_{13} = 0,25$  Course content
    - $w_{14} = 0,20$  Course extent
    - $w_{15} = 0,10$  Will you recommend the course to others?
  - Lecturers/trainers
    - $w_{21} = 0,30$  Understandability of explanations provided
    - $w_{22} = 0,15$  Sequence and logic of explanation
    - $w_{23} = 0,20$  Methods (engagibility) of explanation
    - $w_{24} = 0,10$  Use and appropriateness of teaching aids
    - $w_{25} = 0,25$  Opportunity for active participation
  - Programme learning materials
    - $w_{31} = 0,30$  Professional content
    - $w_{32} = 0,20$  Extent and depth of treatment
    - $w_{33} = 0,20$  Understandability and intelligibility
    - $w_{34} = 0,30$  Pedagogic value
  - Organisation
    - $w_{41} = 0,40$  Care of participants
    - $w_{43} = 0,25$  Teaching/training facilities
    - $w_{44} = 0,20$  Accommodation
    - $w_{45} = 0,15$  Meals

The maximum obtainable index is  $CSI_{max} = K$ . In order to get a comparable figure, the percentile expression can be calculated:

$$CSI_{p\%} = \frac{CSI_p}{CSI_{pmax}} \cdot 100$$

In order to calculate overall Customer Satisfaction Index for all programmes delivered by the E&T institution the following formula can be used:

$$CSI_T = \frac{1}{P} \sum_{p=1}^P CSI_p,$$

where  $P$  is the overall number of E&T programmes provided by the E&T institution.

**FEEDBACK QUESTIONNAIRE** (proposed example)

**Course title:** \_\_\_\_\_ **Teaching hours:**

**Course dates:** \_\_\_\_\_ **Venue:** \_\_\_\_\_

**First name<sup>1</sup>:** \_\_\_\_\_ **Surname:** \_\_\_\_\_

**Education:** Secondary:  University:  Degrees: \_\_\_\_\_

**Department:** \_\_\_\_\_ **Position:** \_\_\_\_\_

**Organisation:** \_\_\_\_\_

**Branch<sup>2</sup>:** \_\_\_\_\_ **Sector<sup>3</sup>:** \_\_\_\_\_

**Employees No.:** < 25  25-500  > 500

**Who paid fee?** Employer:  Myself:  Specify:

**Purpose of participation** <please, tick the appropriate option>

- |   |  |  |
|---|--|--|
| 1 | Self interest to improve qualifications    | <input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/><br><input type="checkbox"/> |
| 2 | Recommendation of superior                 |  |
| 3 | Decision of superior (part of career plan) |  |
| 4 | Necessity due to changed career            |  |
| 5 | Self-employment/interest                   |  |
| 6 | Other reasons – please specify             |  |

**Course evaluation** <please, assess the appropriate level>

**Scale:** (0) the worst – (5) the best

	0	1	2	3	4	5
U11						
U12						
U13						
U14						
U15						

**General suggestions for improvements:**

**Lecturers/Trainers:** <please, complete the name>

**Scale:** (0) the worst – (5) the best

	0	1	2	3	4	5
U21						
U22						
U23						
U24						
U25						

**General suggestions to lecturers/trainers:**

**Programme learning materials** <please evaluate quality of provided learning materials and aids>

**Scale:** (0) the worst – (5) the best

	0	1	2	3	4	5
U31						
U32						

<sup>1</sup> The completion is not compulsory

<sup>2</sup> Engineering, Metallurgy, Building, Electronics, Energy, Transport, Textile, Mining, Chemical, Food, Pharmaceutical, Trade/Commerce, Agriculture, Other (please indicate)

<sup>3</sup> Industry, Agriculture, Services, Public administration, Education, Other (please indicate)



U33 Clarity and intelligibility

U34 Pedagogic value


**Suggestions for improvements:**

**Evaluation of course organisation** <please evaluate quality of course organisation and provided support>

**Scale:** (0) the worst – (5) the best

U41 Overall care of participants [insufficient – above expectations]:

U42 Pre-course support [insufficient – above expectations]:

U43 Teaching/training facilities [non-appropriate – excellent]:

U44 Accommodation [non-suitable – excellent]:

U45 Meals [non-suitable – excellent]:

0 1 2 3 4 5


**Suggestions for improvements:**

**Supplementary comments and recommendations**

**I recommend extending to include these topics or to deal in more depth with existing subjects:**

**I recommend omitting from the programme or shortening those topics:**

**What did you like about the programme?**

**What did you dislike about the programme?**

**Which subjects do you recommend for inclusion in future training programmes?**

**Do you have any other comments or recommendations?**

**Overall evaluation** <please, assess the appropriate level>

**Scale:** (0) the worst – (5) the best

Achievements of declared goals [not achieved – fully achieved]

Satisfaction of expectations [none – full]:

0 1 2 3 4 5


**Place:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Signature:** \_\_\_\_\_

### 3. Quality Parameters of Continuing Education and Training

Continuing E&T in general constitutes a special form of service provided by E&T institutions (the supplier) through the intermediary of internal and external (subcontractor) personnel (teachers, lecturers, trainers) through the interactive E&T process to participants (clients). Part of E&T process is generally also the creation of training aids (text books, lecture notes, syllabi, case studies, solved problems, etc.) and their supply to clients. The important feature of E&T process is its interactivity, i.e. activity of E&T supplier stimulates the activity of the client (distance learning, self-study, solving specified tasks, elaborating projects and their presentation). The final effect of E&T service will make itself felt only when applied to the client's activities in his organisation.

Decisive processes connected with providing E&T include the following:

- a) processes within the training institute in the sphere of technical, organisational and administrative assurance of provided E&T;
- b) processes connected with an analysis of training requirements, design of training programmes, implementation of training programmes and their evaluation;
- c) processes connected with the selection, training (preparation) and evaluation of lecturers/trainers.

The result of these processes is an E&T programme delivered to the target audience. In order to assess the quality the following components shall be assessed:

1. Capacity of the E&T institution
2. Quality of the E&T programme

The capacity of an E&T organisation determines the potential of an organisation to deliver quality training, which can be measured by the availability of sufficient resources (which represent the essential inputs into the processes), namely:

- human,
- physical (material),
- financial,
- information,
- intellectual.

From the point of view of quality, this mainly concerns assessment of the comprehensiveness and quality of these resources and control of their development. In case of human resources this mainly involves assessment of personnel assurance of the function, quality control and development of the teaching staff as well as the administrative and organisational staff of the institution. In this connection, a very significant aspect is the assessment of the stability and maturity of the teaching staff, as it unequivocally appears that the key element and source of the training organisation's quality is the competence of quality of its lecturers. Physical resources are assessed mainly from the point of view of the quality and importance of fixed assets, equipment and facilities for ensuring the individual functions (including, for example, the existence and availability of a library, etc.). The financial resources are assessed mainly from the point of view of ensuring the stable development and sufficient financial safeguarding of the fulfilment of the functions of the training institute. Assessment of the information resources is mainly connected with evaluating the quality of data, information and documentation and methods of their control (including, for example, ensuring the safeguarding of data and defining the method of disseminating information and know-how). The quality of the training institute's intellectual resources is connected mainly with the assessment of available know-how as well as methods of controlling, protecting and respecting intellectual property.

Quality of the specific E&T programme is the second significant aspect of the process of quality assessment. From the point of view of quality it is suitable to assess the following factors related to the E&T programme:

- documentation of the E&T programme,
- professional content of the programme,
- methodological level of the programme,
- allocating lecturers for the programme,
- assurance and control of the E&T programme quality during its implementation,
- maturity and stability of the E&T programme.

Three basic areas of documentation of the E&T programme can be distinguished, the quality of which attests to the overall level of the programme, namely:

- curriculum,
- methodological documentation,
- learning materials.

The curriculum represents the basic material defining the programme goals, the target group, content, the employed training methods, learning outcomes, entry requirements, lecturers (including their curriculum vitae), etc. Other characteristics may then be admission criteria for selecting the participants, method of completing and termination of the course (including the method and criteria for assessment of the participants), the form of certifying participants, etc. The methodological documentation contains mainly the methodological and time breakdown of the programme according to individual topics and describes the use of various methods and other course materials (e.g., case studies), a description of the employed delivery methods, etc. Finally, the study material consists of the textual teaching notes for participants of the training programme, supplementary materials (case studies, etc.) as well as possibly other multimedia and software media supporting the learning process and E&T programme delivery.

From the quality point of view it is, therefore, desirable to assess the level of the above-listed E&T programme documentation. However, this aspect in itself is not sufficient for assessing the overall quality of the training programme.

The professional level of the E&T programme is a further criterion, which should be considered when assessing the quality of the programme. In this sense, it is necessary to take into consideration also the importance of the programme content for the target group of clients from the point of view of the specialist competences required and of programme length and depth. In this connection, an important reference document for quality assessment should be qualification standards defining competency requirements for the individual qualification levels. Without these standards it would be very difficult to define the process of quality assessment.

By the methodological level of the programme we mainly understand assessment of the suitability of pedagogic methods to the programme goals. From this point of view it is necessary to differentiate whether the programme is knowledge or skill oriented, oriented toward team techniques or whether it employs an individual approach. Of importance is also the degree to which the programme applies interactive communication techniques involving the participants. In this sense, of importance is also assessment of the level of utilising modern didactic aids, such as an overhead projector, flipchart, LCD data-projectors, multi-media means, CAL technology, etc. The way of the assessment of achieved learning against learning outcomes is another important component of the methodological content of the E&T programme

An important aspect - which permeates both quality assessment of the E&T institutions and assessment of the E&T programme - is the quality of lecturers. Experience shows without any doubts that the quality of the lecturing staff is a key factor in determining the quality of the training programme and the level of satisfying the client's requirements. It also attests to the overall reputation of the training institute.

Another aspect, which significantly determines the quality of the E&T programme, is the applied method of quality assurance and control. This aspect also reflects the maturity of the applied feedback mechanisms. From this point of view, quality assessment mainly concerns the assessment of the quality of structures assuring and controlling the quality programme in all phases of its life cycle, i.e. from an analysis of training needs, through the development and implementation of the training programme, to its evaluation. It evaluates the process of feedback communication from participants in the E&T programme and communication from the clients (i.e. employers). It also concerns itself with the method of assessing and controlling the development of the training programme. Furthermore, it evaluates the method of and criteria for assessing achieved learning and certifying participants in the programme and also the method by which e.g. appeals of participants may be invoked against evaluation and certification decisions (particularly in the event of longer-term and more comprehensive training programmes) or procedural aspects of participant appeals in the event of dissatisfaction, assessment of the importance of motives and settling requests for return of the financial defrayment of the course. It is particularly this last aspect, which also attests to the quality of the programme documentation and also to the marketing correctness of the programme when specifying the goals and participant target groups.

Quality assurance and control mainly concern the existence and define-ability of the organisational structures, functions and mechanisms of quality management - consisting of a council of the training institution, examination council and examiners, management of the training programme, including defining liabilities and rights of the individual functional quality-assurance departments. The process of quality assurance and management should be documented (records from management discussions on the programme, completed feedback questionnaires by participants and their employers, key decisions, file of issued certificates, etc.) and this documentation should form part and parcel of the training-programme documentation. An integral part of the documentation should also be the organisational and communications structure illustrating the method of organising quality assurance and quality management of the training programmes and description of the functions and competences of individual departments of this organisation.

A key element determining the quality of the training institution and of the training programmes in general is the team of lecturers. It is precisely the lecturers/trainers who share significant responsibility for the creation of the reputation of the training organisation. While it is an easy matter to copy the documentation of a training programme, even the best training programme may be unsuccessful if implemented by incompetent lecturers. The key problem of the majority of small training organisations is the fact that the lecturer team is external and generally the lecturers move between various training organisations. In addition, the structure of the lecturer team is generally unstable. These facts make themselves felt mainly in that we meet up with the same lecturers in various institutions. Such a character of the lecturer team significantly determines the method of managing co-operation of the training institutions with the lecturers and also the method of evaluating their quality.

From the point of view of the lecturer's quality characteristics it is possible to identify three criteria suitable for application in the assessment of the competence of lecturers, namely:

- specialist (sector) competences,
- methodological (pedagogical) competences,
- personal characteristics.

Specialist (sector) competences of the lecturer/trainer form the key condition for his/her successful performance. Specialist (sector) competences are expressed mainly by the special capacity to provide instruction in a given field and can be assessed by means of the following criteria:

- core education (as far as the attained level and specialisation are concerned),
- current specialisation (attested to by documents on specialist qualification by further training and/or development of professional experience),
- publication activities in the given specialist field,
- consultancy experience or research work in the given specialist field.
- participation in conferences and other specialised presentations,
- professional development and its continuity,
- membership in professional organisations with defined specialisation conditions for members.

The methodological competences are mainly connected with abilities of the lecturer to methodologically manage (guide, facilitate) the learning process of participants in the E&T programme. The term "guiding or facilitating the learning process" rather than guiding the teaching process has been used quite intentionally. Here, the sense of guiding/facilitating the learning process of participants is much broader as it presumes not only effective conducting of the teaching process but also the ability of the lecturer to assist the participants in learning the subject matter. From this point of view, it follows that to a great degree it involves mastering suitable pedagogical methods supporting the learning process, among other things also the ability to build on experiences of the participants, the ability to moderate and initiate team learning and, at the same time, also to apply an individual approach and the art of leading teams. The lecturer's methodological competence may be classified according to the following criteria:

- achieved methodological and pedagogic qualification,
- pedagogic experience (its quality, history and level),
- documentation level of pedagogic preparation for the training programme,
- employed pedagogic methods and their relevance to the subject being taught,
- employed didactic aids and technologies,
- methodological development and its continuity (including possible membership in important pedagogic-oriented organisations with defined specialist (professional) conditions for membership).

It is obvious that a lecturer/trainer, who is not a recognised specialist in the field, which he/she is training or consulting, will certainly not be able to comprehend the problem and competently guide participants in its solution. Hence, the general conclusion of the question under consideration is the statement that specialised competence is a necessary prerequisite and necessary condition, but not sufficient in itself. In this connection, it should be added that it depends on the specialisation field of the training programme. However, in every instance it is absolutely necessary for a competent lecturer to possess sufficient specialised (sector) knowledge and sufficient specialised experience in the given field. The proportion between the degree of necessary knowledge and experience depends on the target group of participants and the goals of the training programme. Specialised practice determines flexibility of the lecturer in leading and directing the programme and in this sense constitutes the primary criterion for evaluating competence of the lecturer. Thus, the methodological competences of the lecturer are in fact that second set of competences without which the lecturer will certainly not be able to operate successfully. Actual lecturing practice indicates that for training or consulting activities the joint requirement of specialist and methodological competence lies somewhere between boundaries given by specialisation and methodological competences. The degree of methodological and specialist competences then attests to the overall potential and maturity of the lecturer, i.e. constitutes his quality characteristic.

A no less important aspect - which is suitable for assessment from the point of view of the lecturer's competence - are the lecturer's personal characteristics that directly affect the quality and acceptability of the way the teaching process is run and the method of communication with the participants in the training programme as well as with the training institution. These aspects mainly include the following:

- original and positive thinking (based on consulting practice or research),
- realistic viewing of and approach to specialist and social realities,
- reliability and conflict-free moral attitudes (psychological and social characteristics).

In this sense, the training institution should keep a file on its lecturers, which should consist of the following:

- a professional curriculum vitae of the lecturer (with a record of specialisation and methodological competences prepared by the lecturer),
- the characteristics of the lecturer (from the point of view of the training institution with regard to specialisation, methodological inspection and personal characteristics),
- a contract or some other legal form defining the relation between the lecturer and the organisation,
- record of inspection visits to the lecturer's training session and interview with the lecturer,
- record of evaluation of the lecturer by participants in the training programmes,
- record of the course and standard of co-operation (in the sense of a record of the type and frequency of actions undertaken by the lecturer, maturity of co-operation, etc.).

The above enumeration does not include personnel data for administrative purposes since from the point of view of evaluating the quality of the lecturer these may be deemed as less important. In the training institution the teaching staff form a team (teams) within which the individual quality characteristics should be integrated and improved, based on cooperation, coordination and peer interaction (mutual assessment and positive influence) in order to achieve a maximal synergic effect of the training.

A prerequisite of success for quality management in the training organisation is the ability not only to describe the above processes, but mainly to define their quality characteristics by specifying the relevant requirements. Next, it is the ability to assure, evaluate and adopt measures for improving the quality of the above processes, while achieving commensurate economic results of the training organisation, which is the subject of the next part of the present study.

On the basis of the above analysis of E&T programme, it is possible to identify some specific parameters, which can be subjected to the assessment of quality. The parameters may be quantitative (measurable) or qualitative (comparable) depending on the employed method of assessment and depending on whether the assessment is performed by the organisation providing the training, the client (participant in the course) or a third party (organisation).

On the basis of experience, there is the following list, which can be the subject of quality assessment described in the below [Table \(3\)](#).

Parameter	Description and method of assessment	Weight
<b>Marketing</b>	Objective determination of client requirements and needs and generally valid standards in the area of E&T on the content, scope and form of training. Qualitative parameters can be evaluated by comparison. Quantitative parameters can be evaluated by various measurable quantities.	4
<b>Training content</b>	List of subjects and their content for purposes of offering and providing E&T as is customary in given competence standards (if exists). Qualitative parameters can be evaluated by comparison.	4
<b>Training extent</b>	Number of training hours (generally 45-50 minutes) in the individual subjects. Quantitative parameters can be evaluated by measurement.	2
<b>Content and form of text books, syllabi lecture notes, exercise books</b>	These shall be compared with a given list of subjects and their defined content and with requirements placed on their formal arrangement, their readability and applicability both during the training process and at the participant's place of employment. Quantitative parameters can be evaluated by measurement.	4
<b>Content and form of multimedia and computer support (video, audio, software, etc.)</b>	This is compared (if available) with a given list of subjects and their defined content and requirements placed on the formal arrangement, their readability and applicability both during the E&T process and at the participant's place of employment. Qualitative parameters can be evaluated by comparison.	3
<b>Extent of multimedia &amp; computer support</b>	Time is a measurable parameter (in hours).	1
<b>Qualification of teachers, lecturers, trainers</b>	Formal qualifications (completed education), teaching and professional practice (at home and abroad), attained results in teaching and training, may also be documented by certificates. Qualitative parameters can be evaluated by comparison.	5
<b>Teaching methods</b>	These consist of various forms delivery of E&T(lectures, seminars, tutorials, case studies, workshops, video programmes, excursions, project solving, graduation project, presentation of and oral on the project, entrance, partial and final exams, comprehensive examinations, etc.). Qualitative parameters are evaluated by comparison.	4
<b>Teaching process organisation</b>	This consists of devising a time-table, alternating various teaching forms and teachers, maintaining intermissions, opportunity of relaxation, etc. Qualitative characteristic can be evaluated by comparison.	2
<b>Didactic and technical equipment</b>	Availability and use of various didactical and technical aids (black/white board, flipchart, overhead projector, screen, video-projectors, computers, illumination and darkening facilities, environmental comfort (air temperature and humidity), etc. Qualitative parameters can be evaluated by comparison.	3
<b>Capacity potential of the organisation</b>	Student capacity, number of internal and external teachers, lecturers and trainers and their time capacity. Quantitative parameters are given by the number of students, teachers, the overall number of teaching hours etc.	2
<b>Measure of supplier services</b>	Waiting time for an open course, delivery term for a company course, duration of the course, fulfilment of client requirements, and their maintenance from the point of view of their content, form, time and place. Quantitative parameters can be given by: the number of days and/or the ratio of satisfied requirements to the total number of requirements.	3
<b>Approach to the client</b>	This consists of the sensitivity, politeness, comfort, aesthetics of the environment, justification, reliability, accuracy, completeness, state of the didactic technology, credibility and effectiveness of communication. Qualitative parameters can be evaluated by comparison.	4
<b>Organisational assurance of the</b>	Informational level of advertisements and invitations, accommodation, meals and refreshment, certificate on completion of the course.	3

<b>course</b>	Qualitative parameters can be evaluated by comparison.	
<b>Feedback, use of questionnaires and improvement</b>	Level of feedback, completeness of questionnaires, intelligibility and explanatory ability, assessment of questionnaires (both quantitatively and qualitatively), remedial and improvement measures. Qualitative parameters can be evaluated by comparison. Quantitative parameters can be evaluated by attained number of rating points.	4
<b>Applicability of knowledge and skills in the participant's organisation (the client)</b>	Improvement of the level of the firm's managerial competence, company culture, human resource management, quality of processes, products and services, improved business results. Qualitative parameters can be assessed by comparison. Quantitative parameters can be evaluated by percent increase in the company's business achievements.	3

Table (3). E&amp;T quality parameters subject to quality assessment

The above-listed quality parameters may be controlled and subject to the quality assessment. It is possible to quantify the degree of fulfilment of the qualitative characteristics using a point rating system with an arbitrary scale (0,1), (1,2,3,4,5) etc. It is also possible to obtain an overall measure of quality from the point of view of several characteristics and their weights by creating, for example, a weighted mean. By means of such tools it is then possible to perform a self-assessment as well as a benchmark (comparison with the reference E&T organisations in the field).

#### 4. Designing the quality system at the E&T institution

The basic QA concept builds on the fact, that satisfaction of the clients, i.e. participant in the education and training process) can be assured only if there is a balance of mutual interactions between the three components:

- a) Management definitions
- b) Personnel & material resources
- c) Quality system structures

The above three components and their elements shall be described and documented.

##### 4.1 Management definitions

Management definitions are represented by the definition of the vision, mission and strategic objectives of the E&T institution, including the quality policy and general objectives of providing training. The following components shall be addressed in the documentation:

- i) Mission, vision and strategic aims of the institution
- ii) Business units and strategy specification
- iii) Organisational structure, advisory bodies, authorities and responsibilities of management and all employees
- iv) General market and target groups specification on the basis of communication with clients
- v) Critical success factors, quality parameters and key processes
- vi) Ownership of all processes in the institution
- vii) Key resources and capacity and policy on their development and quality assurance
- viii) Quality policy and objectives and measures for continuous quality improvement of processes as well as principles and concept of quality system review

##### 4.2 Personnel resources and material resources

Personnel resources and material resources shall be described to identify capacity of the institution, which is actually defined by two resources:

- Personnel resources
- Material resources

a) **Personnel** are in general the most important resource of the organisations. The following components shall be addressed:

- i) Overall personnel policy for both internal and external staff
- ii) Criteria for personnel selection, both external (lecturers/trainers, consultants) and internal;
- iii) Process of human resource development and specifically quality training policy of personnel;
- iv) Motivation programmes to quality improvements;
- v) Procedures for verification of competences of internal and external (lecturers/trainers) staff
- vi) Measurement of satisfaction of personnel
- vii) Job specifications and working conditions definition
- viii) Communication channels between management and personnel

The methods of communication may include the following:

- management briefings;
- information exchange meetings;
- documented information;
- information technology use.

**b) Material resources** for education and training purposes consist mainly of education and training facilities, didactic aids and technology. The following components shall be described:

- Organisation and releasing resources;
- Requirements on facilities and equipment as well as their maintenance policy

### 4.3 Quality system structures

Quality system structures of the education and training institution shall be designed, established, documented implemented and maintained. The quality system structure be understood in three principal dimensions:

- Quality assurance structures
- Quality of programme management and clients (participants) support processes
- Quality of evaluation system

#### 4.3.1 Quality assurance structures

Quality assurance structures are usually understood as organisational arrangement and definitions of roles, tasks and relationship among various bodies established for the management and quality control of the education and training processes (programmes). The link of these bodies to the institution organisational structure shall be made. The structures should reflect the related organisation of the course and information flows as well as the allocation of responsibilities. There might be various bodies and positions defined, e.g. programme board, programme management team, programme coordinators, programme administrators, course module leaders, examination board, external examiners, programme review group etc.

Composition, roles and competencies (with special reference to responsibilities and rights), of each individual body or functional position shall be defined for each specific E&T programme together with the description of the information flows, procedures for reporting and approval of reports in the quality assurance structure. An example of quality assurance structure for larger education and training programme can be seen in [Figure \(2\)](#) below.

A *Programme Board* involving senior executives can be established as a supreme body supervising the overall quality of the education and training programmes (at the university it can be equivalent for example to the Dean's Board at a Faculty responsible for approving the faculty courses). The *Programme Management Team* can play the role of executive body responsible for the managing operations and organisation of the E&T programmes delivery. The *Programme Co-ordinators* (assisted by the *Programme Administrators*) is another position with the responsibility for the day-to-day management of the E&T programmes. In case the course has a comprehensive assessment scheme (and in particular if a diploma/degree is awarded to the successful E&T programme participants), it might be relevant to establish an *Examination Board* involving those who are responsible for the assessment of programme participants. An *External Examiners* can also be appointed to ensure the objectivity of the assessment process.

During the E&T programme delivery each module of the programme should have its *Course Module Leader*, responsible for the allocation of lecturers/trainers and co-ordination of the E&T process. In order to ensure the overall evaluation of large programmes a *Programme Review Group* can be



established to support the decision about the future course development and adaptations involving all stakeholders, including the representatives of programme participants as well as representatives of participants' employers, if appropriate.

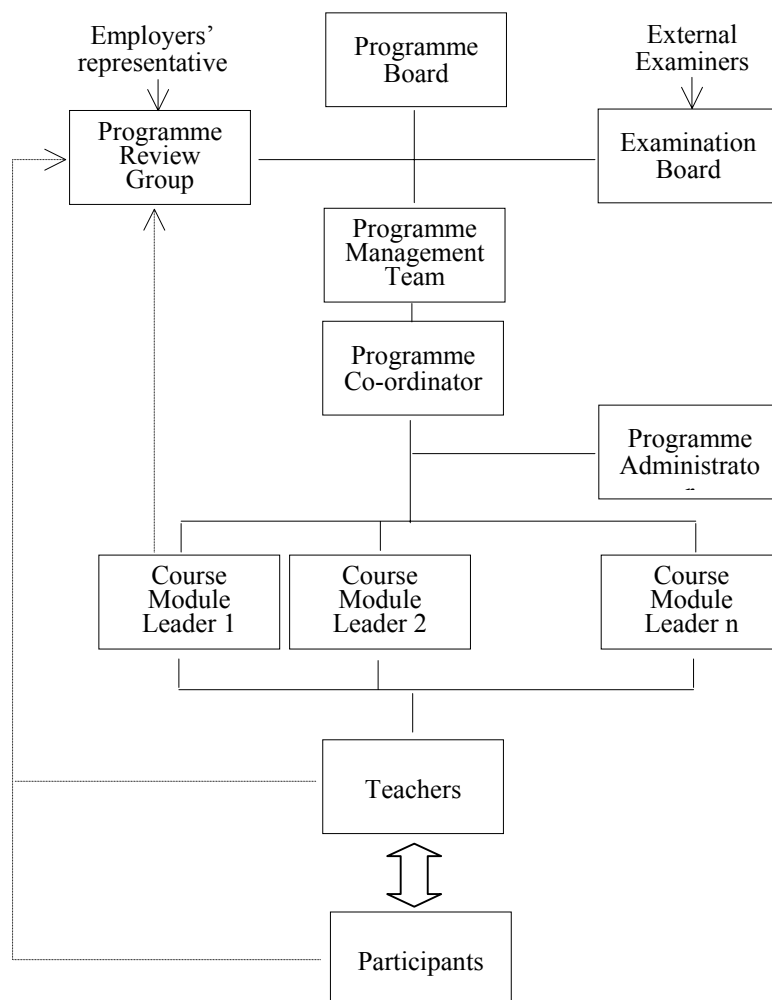


Figure (2). An Example of the Quality Assurance Structure

The quality assurance structure shall reflect specific features of a given education and training programme: their duration and curriculum structure, assessment scheme, course delivery method, etc. For instance, it is possible that in some simple courses only a Programme Co-ordinator directly communicating with lecturers/trainers is appointed, while in more articulated courses the structure in Figure (2) can be relevant.

The examples of quality assurance structures for quality management can be seen in the following figures. The quality assurance structures concerns:

1. The qualifications of the Chartered Institute for Personnel and Development validated within the British Know How Fund project in 1998 by the Chartered Institute of Personnel and Development – Figure (3)
2. The International Distance Education Master of Business Administration Programme validated at the Brno International Business School in 2000 provided by the Nottingham Trent University – Figure (4)
3. The programme of training courses on European aviation law and joint aviation requirements validated at the Brno University of Technology by the UK Civil Aviation Authority – Figure (5)

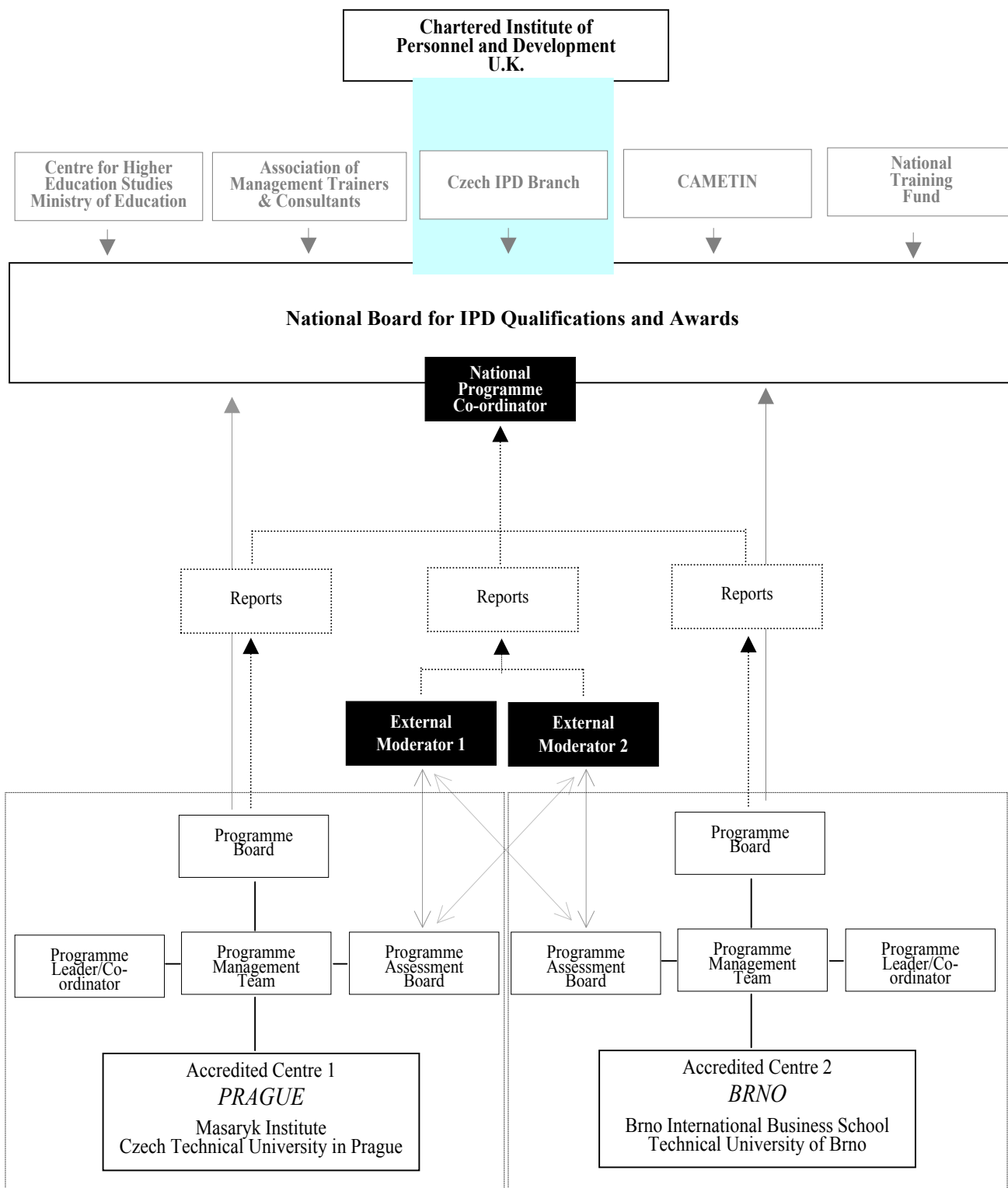


Figure (3).  
 Quality Assurance Structure for qualifications of the UK Chartered Institute of Personnel and Development validated within the British Know How Fund project in 1998 by the Chartered Institute of Personnel and Development

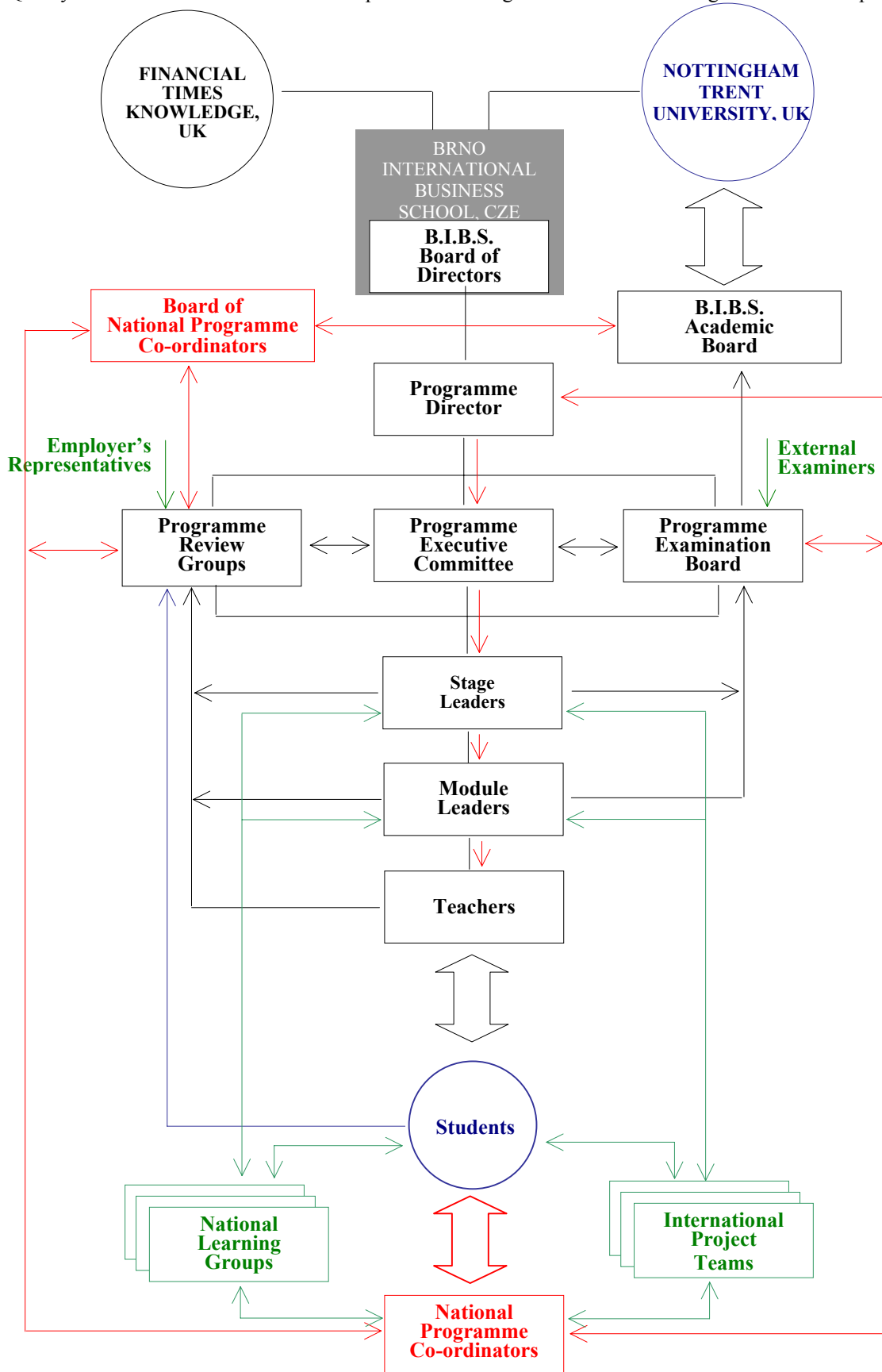


Figure (4)

Quality Assurance Structure for the International Distance Education Master of Business Administration Programme validated at the Brno International Business School in 2000 by the Nottingham Trent University

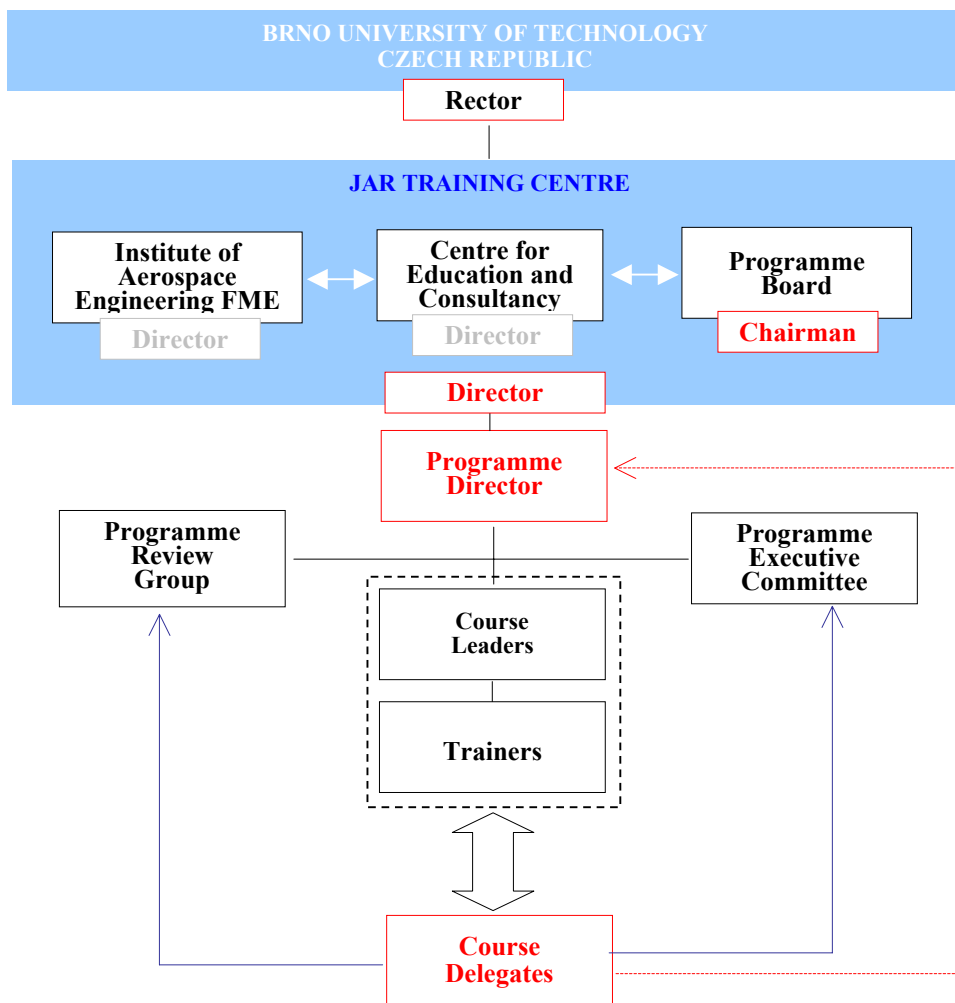


Figure (5)  
Quality Assurance Structure for the programme of training courses  
on European aviation law and joint aviation requirements validated at the Brno University of Technology by the  
UK Civil Aviation Authority

### 4.3.2 The programme management and clients (participants) support processes

The programme management and client (participant) support processes are an essential part of quality system. They are related to the management of the education and training programme lifecycle and logistics of the course delivery processes. The organisation of the processes can be seen in the Figure (6) below. The processes can be divided into two main areas:

- Programme innovation cycle management processes
- Programme delivery logistics processes

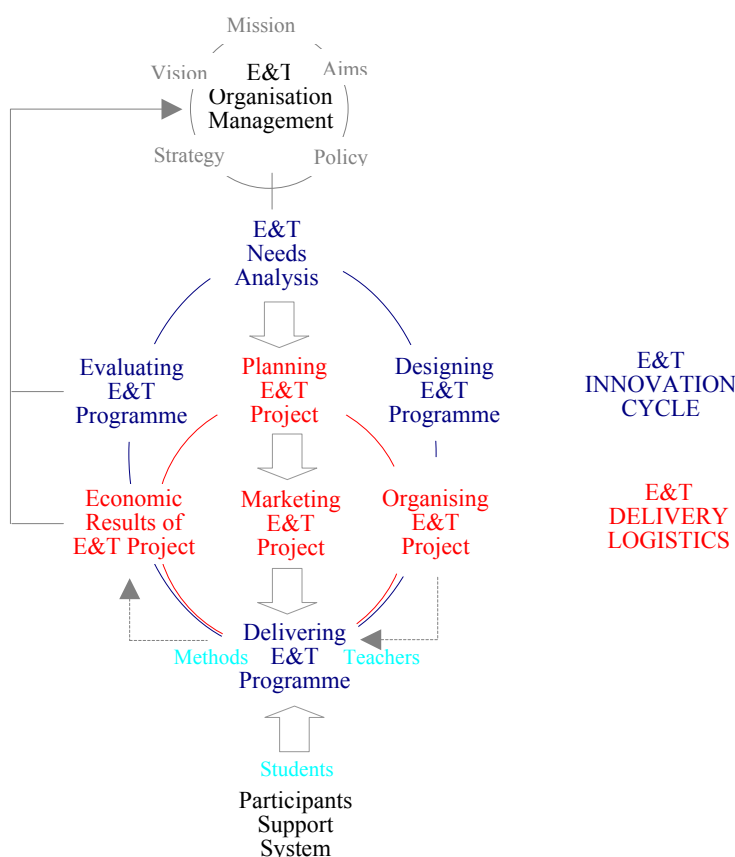


Figure (6). Education and training programme management processes

#### 1. E&T programme innovation cycle management

E&T programme innovation cycle management consist of management of 4 main processes:

- Training needs analysis
- Programme design (development)
- Programme delivery
- Programme evaluation

Elements associated with managing programme innovation cycle shall address:

- The policy, procedures and methods of programme life-cycle management

##### a) Training needs analysis

- Process and methods used of identification of training needs
- Procedures for meeting client needs and needs of the organisation

##### b) Programme design

- iv) Procedures and format of programme specification  
The programme specification consists of three components:
- Programme curriculum
  - Programme syllabus (teaching and learning notes)
  - Learning materials

**Programme curriculum**

- Specification of programme aims
- Target group specification
- Programme content (incl. teaching hours)
- Learning outcomes, i.e. and corresponding competencies to be developed
- Delivery methods and media used (summary)
- Assessment methods and certification of participants (summary)
- Entry competencies and/or admission criteria
- Teaching team allocation
- Programme duration

**Programme syllabus** description

- Teaching/training notes (teachers' guide)
- Study/learning notes (learners' guide)

**Learning materials** including all supplementary documents shall be attached

- v) Procedures and methods used for programme development management.
- vi) Procedures for the programme review and validation
- vii) Corrective actions for identified non-conformities
- viii) Procedures for managing changes in the E&T programme
- ix) Copyrights and intellectual property arrangements (if relevant)
- x) Programme development policy

**c) Programme delivery**

- xi) Concept and methods used for programme delivery
- Pedagogic and methodological approach and policy applied
  - Methods and media used for programme delivery (distance/face-to-face/experiential, etc)
  - Methods used for assessment of learning achievements
    - Assessment methodology (i.e. description of how achieved learning specified by the learning outcomes will be assessed and correspondence to the used delivery methods and media – scales, assessment process, failure procedures, etc.)
    - Participants certification procedures and conditions
    - Procedures for the acknowledgement of a participants' prior learning (APL, if relevant)
  - Learning support and resources (e.g. concept of participants learning support – learners guides/ consultations/ tutoring/technology support /libraries, equipment, laboratories etc.)
  - Scheduling the programme delivery
- xii) Teachers/trainers development policy (CVs to be attached)

**d) Programme evaluation**

- xiii) Concept and methods used for programme evaluation
- Methods used for evaluation
  - Measures for application the results of evaluation process

The design and implementation of the evaluation procedures is another component of the quality systems. Evaluation is an important source of information for further E&T programme development. It essentially provides the feedback from students and their employers on overall quality of the programme. The evaluation system has usually several levels, which differ mainly in quality of received information:

- 1) Level 1. Reactions
- 2) Level 2. Learning
- 3) Level 3. Job behaviour
- 4) Level 4. Department/organisation performance

**Level 1. Reactions:** This level of the evaluation is based on getting the immediate reactions of participants to the programme delivery. The most common tool used for getting the response from participants is a *feedback questionnaire*. The typical feedback questionnaire should include appropriate questions to provide a comprehensive assessment on:

- how the participants (initial) personal objectives and expectations were met,
- appropriateness of course content (including the level),
- adequacy of delivery methods (including learning resources, technology),
- lecturers/trainers performances,
- adequacy of organisational arrangements,
- extent of course contribution to personal development of participants.

Usually an assessment scale is used to identify the level of satisfaction (from the best to the poorest). Usually it is appropriate to use “even” level scale (i.e. 4 or 6 or alternatives) rather than “odd” one (i.e. 3 or 5 or alternatives) in order to press the students to incline either to better or worse side of the scale.

**Level 2. Learning:** This level is essentially designed to evaluate the achieved level of learning. This level is closely linked with the assessment system. Tools to be used depend on what competencies are going to be assessed, i.e. knowledge, skills, attitudes etc. The typical tools used for assessment of learning achievements are:

- Tests
- Examinations (written or oral questioning or their combination)
- Written assignments (projects)
- Participants presentations on a given topic

In addition to the design of the above assessment tools in terms of content, the assessment criteria and scales shall be defined and described in the quality assurance manual/report.

The participants’ self-assessment is also an important tool. It can be provided also through, so called, *participants’ portfolio*. This is a written document elaborated by each participant in which the participant indicates (before the programme start) the competencies, which he/she expects to be developed and the actually achieved ones (after the programme end). An assessment scale can be set up for rating of the achieved competencies.

It is the responsibility of the E&T programme provider to define the structure of the participant portfolio and assessment scales. In order to motivate participants to elaborate the portfolio, its submission can be among the formal conditions for the completion of the programme (as e.g. a written assignment).

**Level 3. Job behaviour:** The aim of this evaluation level is to evaluate the improvement of behaviour and performance of the participants in the workplace over the course delivery time. This can be realised by seeking the assistance of the line manager of the participant to evaluate the programme effect. A typical tool for this level of evaluation is *performance report* evaluating the effects of programme completed by the participant on his/her performances. The line managers of participants shall elaborate the report, where the description of the observations or performance records (if available) on the participant’s workplace is provided.

This report can be included as a specific section in the *participants’ portfolio*. It is applicable mainly for long-term programmes, when there is a reasonable period for performance observations. In case of short-term courses, this level of evaluation can be conducted sometimes after the course completion, asking the participant and/or his/her line manager to prepare a short *performance report*. Another method is *interviewing* the participant and/or the line manager some time after programme completion.

However the job behaviour evaluation (and in particular its quantification) depends strongly upon a good appraisal system as well as existence of performance criteria in the participants' i.e. client organisation.

**Level 4. Organisational behaviour:** The evaluation at this level shall provide an aggregate evaluation and cost-benefit analysis in terms of impact of the overall completed E&T in general on the performances and effectiveness of the organisation as a whole. The impact of E&T should be evaluated on parameters like overall financial turnover of the organisation, productivity, customer satisfaction etc.

There are not specific techniques available to evaluate E&T benefits at this level. In particular it is difficult to measure such impact because there are usually no direct links between the training and parameters describing the economic performances and overall effectiveness of the organisation.

In most cases this level of evaluation can only be qualitative and linked as a whole to the aggregate E&T system in the organisation. In particular it might be relevant for long-term E&T programmes to establish a *Programme Review Group*. The group should bring together senior executives of organisations, students and their line managers with teachers and executives of the training institution. They should evaluate the course and give indications for its further development in line with the needs of the customer organisation.

## 2. E&T programme delivery logistics management

E&T programme delivery logistics management consist of management of 4 main processes:

- Planning the E&T projects
- Marketing the E&T programmes
- Organising the E&T programme delivery
- Economic planning and evaluation

Elements associated with quality in marketing should include:

### a) Project planning

- i) Procedures and methods used for planning and managing E&T projects
- ii) Procedures for approving the projects (incl. responsibilities)
- iii) Procedures for managing project implementation
- iv) Procedures and methods for quality monitoring and reporting process

### b) Marketing

- v) Market research policy, methods and marketing data update (benchmarking, etc.)
- vi) Procedures for identification of potential clients
- vii) Procedures for offering including means of communication and communication with those interested in the programme
- viii) Ways of communication with internal and external personnel on meeting client needs
- ix) Procedures for management marketing data;

### c) Delivery organisation

- x) Rationale and methods of organisation and administration of programme delivery
- xi) Procedures and methods for programme delivery scheduling
- xii) Procedures for procurement and rent of services (lecturers/trainers/equipment/facilities)
- xiii) Procedures for the programme launching/completion/termination (regular and irregular)
- xiv) Procedures for the participants registration/enrolment for the programme
- xv) Procedures for the participants' appeals (if relevant)
- xvi) Description and organisation of learning support system and resources (consultations/ tutoring/ library/ laboratories, out-door activities, inspections in companies etc.)
- xvii) Description and organisation of participants support service system and resources and policy for providing complementary services (catering, accommodation, etc.)
- xviii) Organisation of quality monitoring and control (incl. activities, internal audits approach, etc.)
- xix) Methods and procedures for performance analyses and improvement (evaluation lecturers/



trainers/ client feedbacks / audits

xx) Equal opportunities arrangements

**d) Economic planning and evaluation**

- xxi) Methods for cost calculation and price set up for the E&T programmes (including methods for cost-benefit analysis)
- xxii) Methods for economic planning and evaluation of economic results (on the level of institution and the programme)
- xxiii) Methods for handling and utilising financial resources on the level of institution and the programme (billing and collecting fees from participants, etc.)

**4.4 Quality system documentation and data management**

Documentation of processes and quality records are an essential component of the quality system. System of data management both printed and electronic, which includes processes like data acquisition, retrieving, verifying, processing, confidentiality status defining, allocating responsibility, handling, using, storing – archiving, etc., shall be defined and specific processes described.

There are the following documents, which shall be designed in order to define the quality system, i.e. structures, processes and procedures carried out at the E&T institution.

- a) Quality manual
- b) Quality plan
- c) Procedures
- d) Quality records

The quality manual shall contain the description of:

- the quality policy and objectives;
- the structure of the institution, including specification of roles and responsibilities;
- the structure of the quality system (i.e. the *quality assurance structure*) including all elements and provisions that form a part of it;
- the quality practices of the institution;
- the structure and distribution of the quality system documentation.

The quality plan, is a document, which describes specific quality practices, resources and sequence of activities relevant to a given education and training programme. Specifically, this concerns a document containing procedures for the generation, defining and implementation of requirements on the quality of a given programme.

Procedures are the written statements, which specify the purpose and scope of activities in an institution and define how the activities are to be conducted, controlled and recorded. In practice this involves a time and material training schedule, description of a detailed procedure of the course of the training in individual thematic units, characterised by the content, formal and time element, including application of didactic technology, with the training process directly controlled by a lecturer/trainer and with the course possibly recorded in a study report. These procedures should be approved and should be accessible to all personnel of the institute.

Quality records on the education and training processes and individual programmes includes the following documents:

- a) Project documentation (project, cost calculation, etc.)
- b) Programme documentation, providing the information about the E&T programmes:
  - Programme curriculum
  - Programme syllabus i.e. teachers' guide (notes) and student guide
  - Learning materials
  - Programme marketing materials (course leaflets, etc.)
- c) Programme statistics (if available) (e.g. to-date expected number of students and relevant statistics, financial statistics, market positioning of the programme etc.)

- d) Programme management documentation (minutes of the meetings of programme management teams/programme boards/examination boards (if relevant), general correspondence, feedback questionnaires from participants, monitoring reports, audit reports etc.)
- e) Lecturers/trainers files, which contain the tutor's CV (and other relevant information), lecturers/trainers assessment by students/by the organisation, as well as records on the lecturers/trainers continuing professional development.
- f) Programme participants files, which documents the their participation in the programme, i.e. participants application form, learning/study contracts, participants CV (if relevant), submitted assignments, assessment forms (assessment records), individual correspondence etc.)
- g) Forms (e.g. application form, feedback questionnaires, assessment forms, agreements forms etc - the examples of all forms shall also be attached to the quality manual)
- h) Marketing records (questionnaires, analyses, benchmarking, etc.)

The existence of a documentation system (both printed and electronic) is subjected to audit review checked during the audit visit.

## 5. E&T Quality Audits

The goal of the E&T quality audit is to inspect the quality assurance, sources and executive bodies at the audited E&T institution within the context of their adequacy and relevance when compared with standards with the purpose to receive the certification from the auditing institution. The audit aims at the analysis of the organisational aspects, regulations, procedures and processes as well as the general background and both the internal and external environment of the processes, which could guarantee the E&T could be provided within the required quality standards.

The aim of the E&T quality audit is to prove:

- i) Effectiveness of regulations for quality assurance of the E&T process, especially regarding the organisation, monitoring and development of the qualification standards
- ii) Effectiveness of regulations guaranteeing a permanent update of the curriculum and contents of the educational programmes as well as innovations in the teaching methods
- iii) Quality and adequacy of the resources and their development plan (physical base, facilities, teaching staff and administrative resources, investment strategy, physical location, guaranteeing to the students the possibility to finish the studies as well as the quality of other resources necessary for the support of the teaching and learning - library, computers, teaching aids and didactic equipment, etc.)
- iv) Procedures and mechanisms for managing and monitoring the teaching/training process
- v) Background and quality of services and E&T programme participants care
- vi) Transparency of the communication and information channels leading from the teachers and students to the quality control bodies and programme management
- vii) Efficiency and quality of the executive and administrative bodies
- viii) Effectiveness of regulations allowing to the lecturers and E&T participants that have wide-ranging personal experience to contribute to the development of the programme and to the creation of plans as well as to the definition of priorities and strategies
- ix) Quality system documentation and records

### 5.1 Auditing the Institution

During the audits of E&T institution the review of the quality system shall be made using criteria described in the chapter 5.4 and 5.5. The following documents shall be submitted:

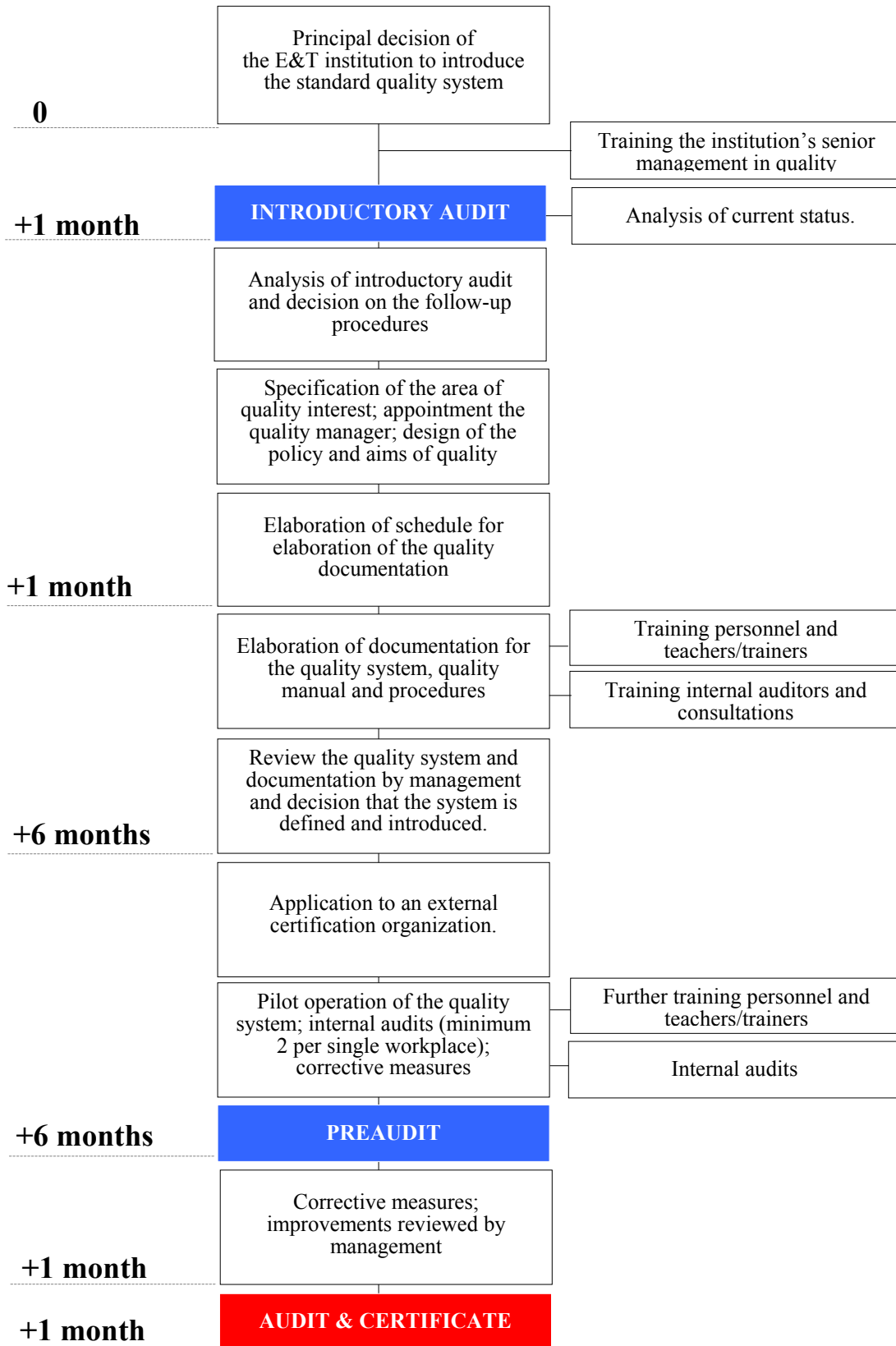
1. Quality manual
2. Quality plan
3. Quality procedures

The supplementary set of questions can be used when interviewing the managers and employees of the E&T institution during the on-site audit as provided in [Table \(4\)](#):

<b>1</b>	<b>Management</b>
1.1	Does the institution have a vision, strategy, policy and objectives in a written format?
1.2	Does the institution have a yearly business plan elaborated?
1.3	Is there any evidence of achieving (yearly) business plan objectives in the recent past?
1.4	Does the institution have a defined key E&T programme(s) or other main product(s)?
1.5	Does the institution have a system for performance management and evaluation?
1.6	Does the institution perform regular evaluation of the employee performances?
1.7	Does each full-time employee of the institution have a personal development plan?
1.8	How much is invested annually to the professional development of employees?
1.9	In which development programmes does the director/owner of took part?
<b>2</b>	<b>Programme design and delivery</b>
2.1	Whose ideas are basically taken into consideration, when planning the programmes?
2.2	Who does most of the preparation of programme curriculum?
2.3	What methodology is employed for the programme design?
2.4	Who assesses the programme professional and pedagogical level against to needs?
2.5	Are the records kept about this procedure including corrective measures?
2.6	What is the methodology for preparation of learning/teaching materials?
2.7	Are the learning/teaching materials refereed (evaluated, assessed)?
2.8	Are records made about evaluation?
2.9	What is the methodology of programme delivery?
2.10	What is the methodology for adaptations/updating of the learning/teaching materials?
2.11	Is a record made about adaptations?
<b>3</b>	<b>Assessment of lecturers/trainers</b>
3.1	What is the methodology for selection of lecturers/trainers? What should they demonstrate?
3.2	How are the competences of lecturers/trainers assessed?
3.3	Is a record made about this assessment?
3.4	How are the lecturers/trainers instructed before the introduction of new programmes?
3.5	Is there any training provided to lecturers/trainers before the new programme is launched?
3.6	What is the methodology for assessment of lecturers/trainers during the programme delivery?
3.7	Is there a record made about the lecturers/trainers assessment?
3.8	Does the institution invest in the development of lecturers/trainers? How much yearly per person?
3.9	Do the clients have the opportunity to assess the lecturers/trainers? What is the methodology?
3.10	What are the measures of negative evaluation for termination of a lecturer/trainer contract?
<b>4</b>	<b>Evaluation and client satisfaction</b>
4.1	What is the methodology of the programme evaluation?
4.2	How the results of evaluation are used?
4.3	Are there any records of evaluation?
4.4	Does the institution have a defined policy of client satisfaction?
4.5	Does the institution carry out regular survey of client satisfaction?
4.6	Does the institution analyse the results of client feedback?
4.7	Is there a written procedure for utilising these results?
4.8	Is a record made of all facts related to client satisfaction?

Table(4). Supplementary set of audit questions

The process of introducing the standardised model of quality assurance in the training organisation can be seen in [Figure](#) below.



## 5.2 Peer review and validating E&T programmes

The specific quality review process frequently applied for the validation of E&T programme is the peer review. Although the peer review concept can also be used as the third alternative concept for review of quality systems together with the ISO and National Awards approach, this concept is useful in particular for approving the E&T programmes. The concept is mostly applied, when an E&T institution, i.e. validating (source, parent) institution, is going to approve its partner E&T institution, i.e. validated (host) institution, for the delivery of the E&T programme in order to award the licence and/or conclude a franchise agreement. Such a practice is relevant in particular mostly in two the following cases:

1. to transfer of foreign qualifications
2. to provide wider (e.g. international) recognition of E&T programmes

In case the foreign qualifications, which are normally not recognised by the national legislation, are transferred, the validated institution substitutes the national authorities and legislation in the way that provides warranty to the host institution to deliver a given E&T programme and provides guaranty on its provision (the host institution usually also registers the E&T programme participants and issues the certificates and awards for successful graduates). The typical example of such practice in the Czech Republic is the transfer of MBA (Master of Business Administration) studies and qualifications.

To provide wider recognition for the specific E&T programmes is another case, when a given institution with wider reputation approves the E&T programme provided by a given E&T institution in order to support the marketing of the programme. This is actually a sort of accreditation of the E&T programme, when the accrediting institution does not take any responsibility for further programme delivery. It just states on the basis of quality reviews, that a given E&T programme is relevant for the given target group and is managed and quality assured in accordance with the given standards. The typical example of this case is e.g. the validation of the set of courses on European aviation law and regulations delivered by the Brno University of Technology under the accreditation of the UK Civil Aviation Authority – see [Figure \(6\)](#).

In principle for peer review both institutions are of equal status (i.e. university-university, training institute-training institute, etc.) and/or they have the relationship, when the source institution does not have any regulatory authority to the host institution.

Model of relationships between the parent (source) institution and the host institution for peer review can be seen in [Figure \(7\)](#). The explanation of roles of structure components is provided in [previous chapter](#).

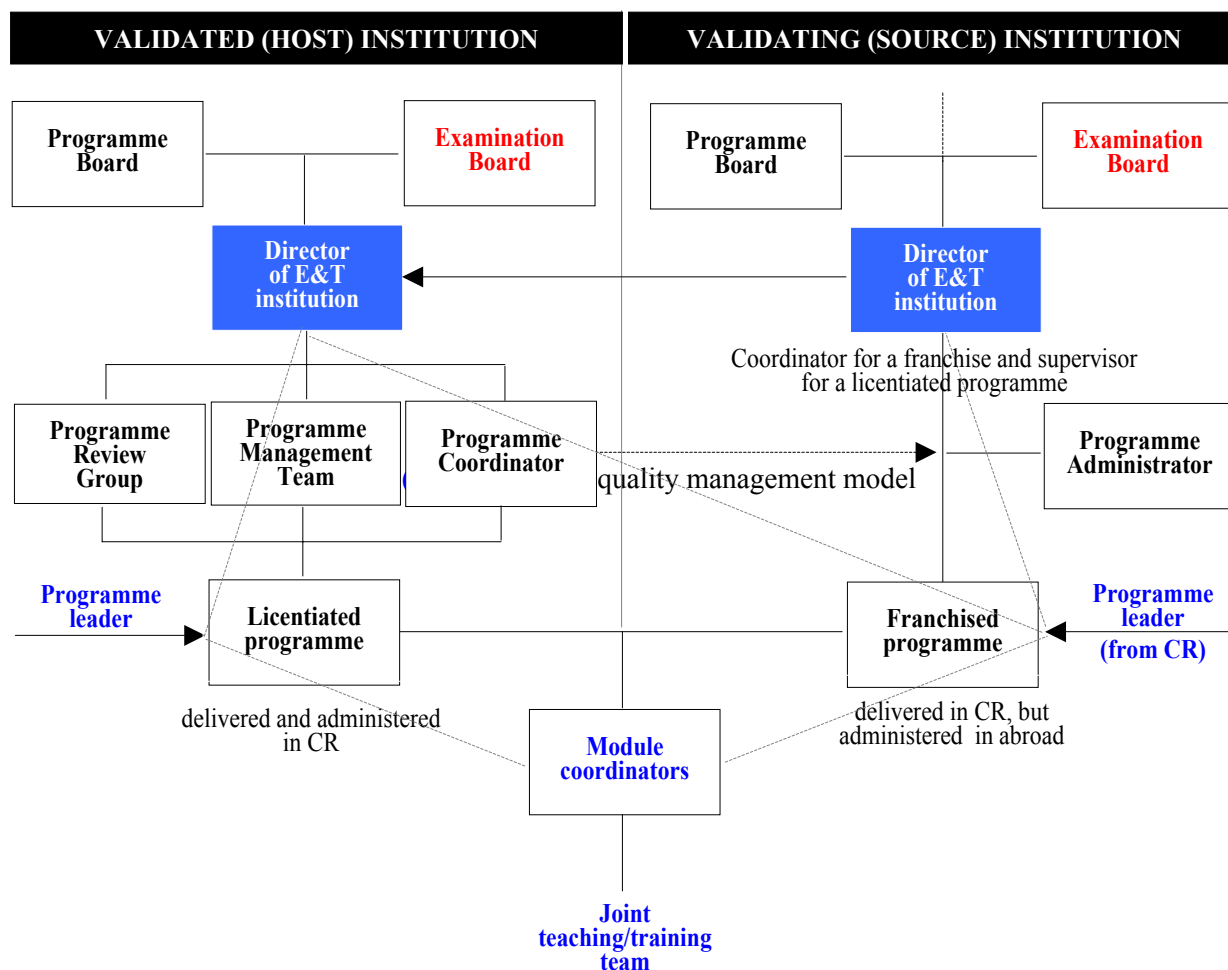


Figure (7). Peer-Review Model Relationship

The purpose of the E&T programme validation process is to check review the programme in terms of its relevancy towards the target group (content, extent, etc.), assess the quality arrangements and/or compatibility of quality assurance structures and procedures in the host institution. The following E&T programme attributes are reviewed:

- i) The overall organisation's capacity and resources to implement the E&T programme
- ii) The overall quality assurance arrangements and policy applied by the organisation
- iii) The professional quality and relevancy of E&T programme content and extent
- iv) Quality of pedagogical assurance and lecturers/trainers development policy
- v) Evaluating quality of organisational and personal arrangements related to the E&T programme implementation and delivery (technology used, resources, facilities, organisation,...)
- vi) Quality assurance, quality assesment and monitoring arrangements

Figure (8) demonstrates the example of relationships and records administered for quality monitoring by the peer review model of quality assurance.

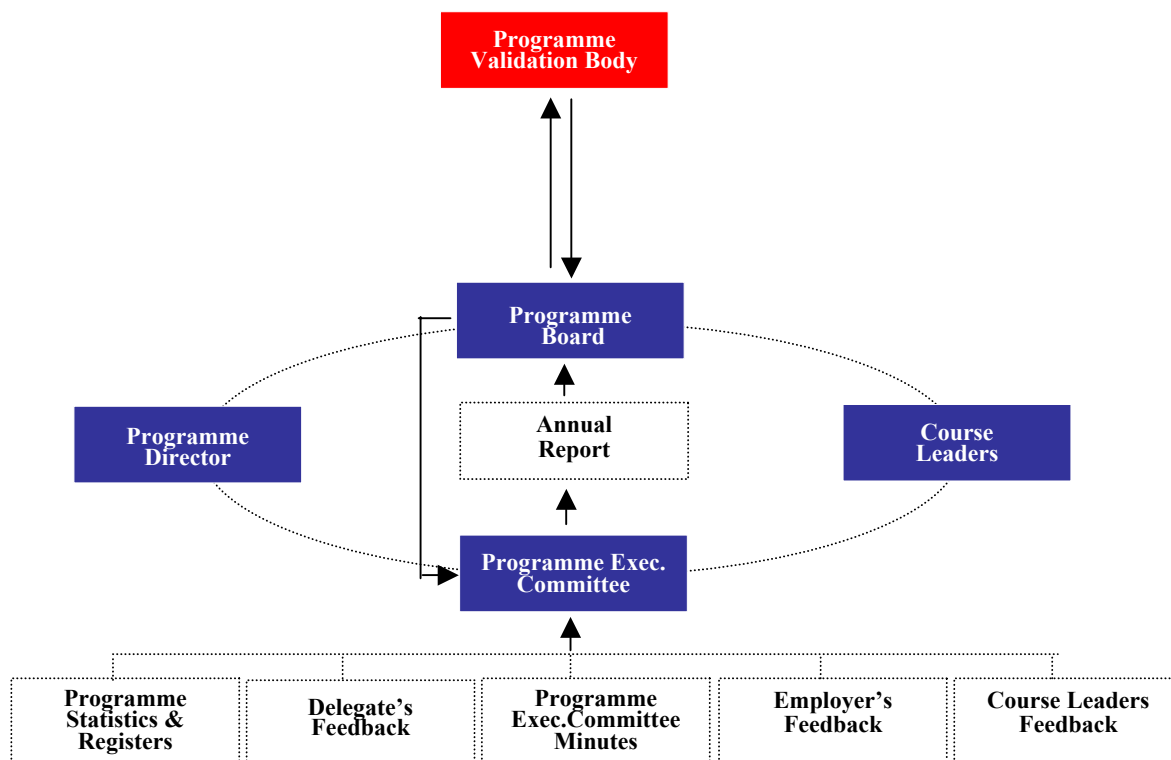


Figure (8). Peer review quality model relationships and records

The peer review audits are usually organised in the following steps:

1. the pre-validation meeting for defining the process and criteria (the memorandum of understanding can be signed)
2. elaboration of the validation document and its submission to the validation panel
3. analysis of the validation document by the panel
4. on-site validation inspection (validation institutional review visit) carried out by the validation panel
5. validation agreement preparation and submission

The validation document will consist of the following chapters and annexes:

- i) Introduction: aims and objectives of the programme
- ii) Background to the institutions involved
- iii) For whom the programme is intended (target group)
- iv) Overall objectives of the programme
- v) The structure of the programme
- vi) Delivery methods and media used (teaching & learning strategy)
- vii) Assessment and regulations for achievement of awards (certification)
- viii) Admission criteria
- ix) Validation concept
- x) Quality assurance and management of programme
- xi) Programme development policy
- xii) Teaching staff development policy

ANNEX 1. Programme Curriculum (course catalogue)

ANNEX 2. Curricula Vitae of Trainers

ANNEX 3. Forms used

ANNEX 4. Evaluation and report on the on-site monitoring of the programme

The validation inspection (validation institutional review visit) carried out by the validation panel (usually consisting of 5 persons - 3 of them representing the validating institution and 2 independent local representatives of external institutions - external panel members). All members of the validation panel are nominated and appointed by the validating (source) institution that also chooses the

chairman of the panel. This validation panel then carries out the institutional review against the criteria adopted in order to check the quality of the quality assurance system at the validated (host) institution. On-site audit interviews and discussions of all programme stakeholders (the institution's management, administration staff, potential (or existing) participants) using the list of above the most frequently asked questions .

There might be several legal arrangements related to the above practices, which defines several legal models of relationships between the source and host institutions.

1. Memorandum
2. Agreement
3. Franchise by License
4. Accreditation

The memorandum is only an expression of the standpoint of both sides regarding the representation of the selected function of the source institution during the time that the E&T programme is being provided by the host institution.

In case of transfer of an E&T qualification the host institution is usually entrusted especially with marketing activities, with creating the support and organisational-administrative background for the realisation of the educational programme. The source institution then provides the complex pedagogic process and all functions related to the programme and quality standards assurance. In case of E&T programme recognition, this type of legal arrangements gives only the statement and/or is just an expression of registration of the E&T programme.

An (international) agreement represents a legally stronger relationship. In case of transfer of an E&Q qualification the whole complex of responsibilities, relations and procedures is legally defined. Under defined conditions that are subject to a more strict audit of resource quality at the host institution, an agreement may delegate certain qualitatively higher competencies to provide the programme at the host institution, including the possibility for their teachers to participate in selected parts of the programme (especially for the purpose of adapting the curriculum to the national conditions - *customisation*). This agreement usually also defines the role of the host institution and establishes the procedural aspects, form and structure of the studies, which needs to be legally in accordance with the studies at the parent institution. In this respect, the agreement also regulates the student assessment system, the compatibility (e.g. through a credit system) and it determines conditions under which a student may be awarded a certificate or a diploma of the parent institution. The quality assurance and the curriculum of the studies is fully in the hands of the parent institution.

In case of programme recognition the agreement is usually expression of specific cooperation of both institutions on E&T programme delivery on more or less equal basis.

The following two legal arrangements, i.e. franchise and license, concerns only the transferred qualifications, which are usually owned by the source (parent) institution and transferred to the host institution.

Franchising is a legal form of relationship through which the parent (source) institution delegates the authorisation to provide the E&T programme onto the validated (host) institution. However, the validating parent institution keeps the ownership and responsibility for the quality standards assurance and the functions of the executive bodies, including the assessment, examination and awarding of certificates and diplomas related to the programme. The management over the realisation and organisation of the programme in the country where the validated institution is located is given into the hands of the validated organisation that provides these activities as a representative of the parent institution.

The participants are registered as so called *associated students* at the parent institution and they are obliged to pay the registration and certification fees to the parent institution (usually per year). The education is organised in co-operation with the teachers from the parent institution and the appointed teachers of the validated institution in form of so called *joint-delivery*<sup>4</sup>. The parent institution usually issues the certificates and awards, which bear only insignias of the parent institution. The following roles are expected on both sides:

<sup>4</sup>A participation of the teachers of the parent institution is required for disciplines where, during the validating inspection, the personal and professional background was identified as insufficient with respect to the teachers of the validated institution.



**Validating institution.**

- (1) the programme is owned by the validating institution represented by the Programme (Academic) Board which is also responsible for its quality assurance. The parent institution keeps its responsibilities for its professional management, development, monitoring and evaluation of the professional and quality standards as well as for the assessment, examination and awarding of the certificates and diplomas. This process is managed by the bodies<sup>5</sup> of the parent institution.
- (2) the parent institution owns the copyrights of all documents except those developed at the validated institution and approved by the Programme (Academic) Board of the parent institution for their use within the programme
- (3) all changes and deviations in the programme including changes in the scheme, delivery, curriculum and structure must be submitted for approval to the Programme (Academic) Board or to the joint Management Team of the programme at the parent institution.

**Validated institution.**

- (1) provides pedagogic, physical and financial resources necessary for the teaching process, assessment<sup>6</sup>, methodology, student welfare services and organisational-administrative background
- (2) pays the annual licence fee, usually related to the number of students
- (3) suggests teaching methods and changes (timetable, programme management and operational management etc.) that must, however, be approved by the parent institution
- (4) appoints the head of the programme who is in charge of the programme management and who becomes an external member of the executive bodies of the parent institution (observer in the Academic Board and moderator in the Examination Board)
- (5) manages the appeals of students against the decisions of the Examination Board in accordance with the parent institution procedures

The accreditation is the highest level of legal relationship, where the parent institution grants a *full licence* to the validated institution to provide the programme using their own resources. In this respect, it is an expression of trust based on the quality audit of the validating inspection certifying that the defined level of quality and mechanisms, including the personal development of the pedagogic staff and the efficiency of the administrative and executive bodies, has been reached. The responsibility for the quality standards assurance and the functionality of the executive bodies as well as assessment, examination and decision-making regarding the awarding of certificates and diplomas related to the programme is delegated to the validated institution.

However, the certificates and diplomas are still issued and awarded by the parent institution but they may bear the insignias of both institutions. Participants are registered as full-time students of the validated institution and the parent institution only takes evidence on them (in some cases as associated students). The validated institution pays the license fee and the certification fee for each participant to the parent institution for issuing the certificates and diplomas. The E&T process is fully handed over to the validated institution and involvement of teachers of the parent organisation is not required. The following roles are performed:

**Validating institution**

- (1) provides support to the development of the quality assurance system with the purpose to extend the maximum autonomy in maintaining and developing the pedagogic and professional standards
- (2) keeps the role of a supervisor; it appoints its representative (*verifier*) for the annual visits verifying how the pedagogic, professional and quality standards are obeyed and developed
- (3) registers the students and keeps their study records
- (4) carries out the certification and awards the certificates and diplomas to students
- (5) approves, in written, the promotion means (brochures, announcements, press releases etc.) mentioning the parent institution

<sup>5</sup>Joint bodies involving a limited number of representatives of the validated institution as so called associated members, i.e. as observers in the Academic Board and as moderators in the Examination Board, with limited responsibilities may be established within the parent institution.

<sup>6</sup> The assessment is carried out either at the parent institution in full extent or based on the principle of so called double-marking. The assessment of the assessor at the parent institution is crucial.

- (6) controls the appeals of students against the decisions of the Examination Board in accordance with the parent institution procedures

### Validated institution

- (1) the ownership of the programme as well as the overall responsibility for the programme and its management and quality control are fully delegated onto the validated institution. For this purpose, the validated institution selects and appoints its own executive bodies in charge of the programme management and quality assurance. These bodies are responsible for the professional management, for obeying, monitoring and evaluating the professional and quality standards as well as for the assessment and examination of the students. Only the certificates and diplomas are still issued by the parent institution, however, based on the recommendations of the bodies of the validated institution.
- (2) provides pedagogic, physical and financial resources necessary for the education, assessment<sup>7</sup>, methodology, welfare services and organisational-administrative background
- (3) pays the annual licence fee to the parent institution, usually related to the number of students
- (4) teaching methods (timetable, programme management and operational management etc.) are fully in competence of the validated institution
- (5) only fundamental changes and deviations in the programme compared with the accredited version, such as fundamental changes in the scheme, delivery, curriculum and structure must be submitted for approval to the parent institution

The specific types of legal arrangements usually also reflects the maturity of partnership between the source and host institutions. This can be seen in [Figure \(10\)](#).

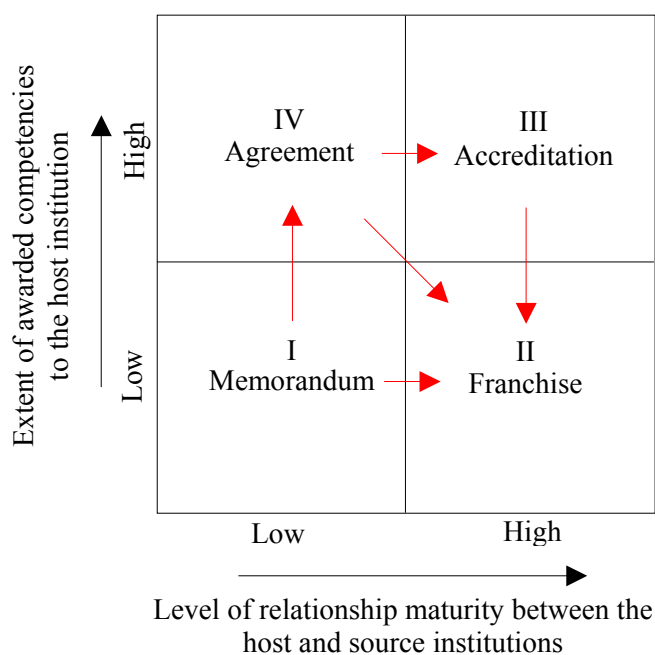


Figure (9). Legal forms of relationships between peer review institutions

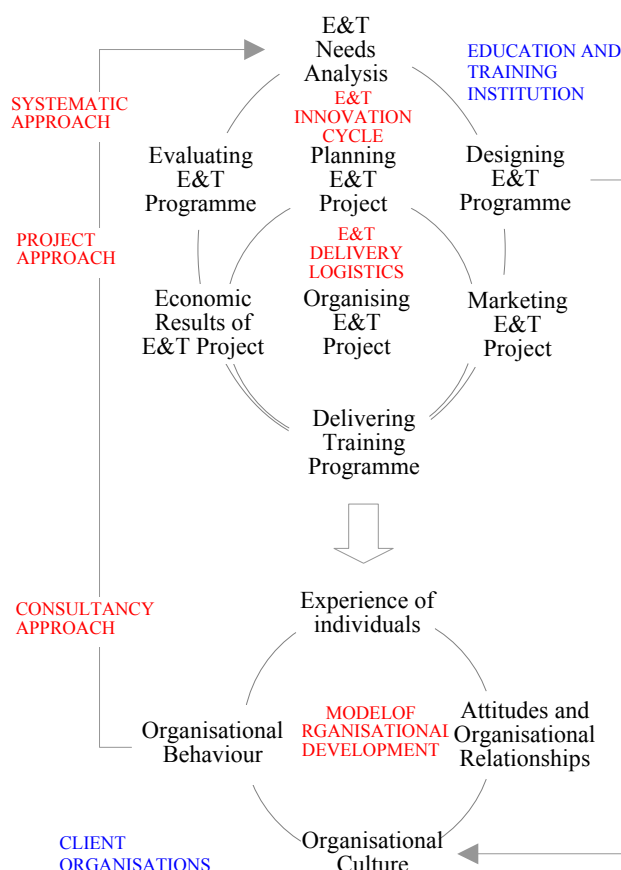
Figure (9) shows legal forms of the relationship between the validating and the validated institution with respect to the extend of the granted competencies or degree of independence in relation to the maturity and flexibility level of the educational programme which especially reflects the maturity and level of the audit of the quality assurance structures. The arrows stand for the possible development trends in this relationship.

## 6. Conclusions

<sup>7</sup> The assessment is carried out either at the parent institution or at the validated one depending on the location of the main module or subject. The double-marking principle may also be used but, in this case, the assessments are usually considered equal.

Quality has been becoming an important order-winning factor also in the E&T and/or consultancy sectors. There is a general trend in seeking procedures and methods for assuring, assessing and improving the quality of E&T. It is therefore essential to establish and implement specific quality assurance mechanisms for establishing, monitoring and maintaining the quality of E&T processes.

It shall also be considered, that E&T is one of the essential tools for successful development of organisations, managing change, developing organisational culture and behaviour. Therefore there is a great responsibility for personnel managers to make a good selection of relevant training interventions. The quality of E&T has therefore strategic implications on development of client organisations (as demonstrated in Figure (1)).



In general however there is still no competitive motivation for Czech E&T institutions to implement a formal quality system, because there is no relevant pressure either from the industry, or from the educational authorities. It is still not a common and generally applied rule of client companies in the Czech Republic, that E&T providers as suppliers to companies with a certified quality system must also be quality certified. It is partly also because of the fact that E&T is still not a recognised priority in a large number of client companies. However the effective and approved quality system will become soon an important competitive factor for Czech E&T providers on the EU E&T market.

Nevertheless it becomes clear from the interviews with the clients of E&T programmes (mostly personnel managers of companies), that there is a need to have some formal instrument for assessing the offers of various E&T providers. There are around 2.000 registered E&T providers in the Czech Republic, which makes the E&T market both for the industry (i.e. clients) and for the educationalist not very easy to regulate in terms of quality. This means the formal requirements on demonstration of a formal quality system when applying for E&T contracts may be considered as an important E&T market regulation instrument.

The aim of this work was to analyse and to provide an overview of to-date experience with the quality systems in E&T institutions (mostly from outside the Czech Republic), identify key elements of the quality in E&T and elaborate a basic methodology of the design and implementation of formal quality systems in the Czech E&T organisations.