SOCRATES ODL
EUROPEAN PARTNERSHIP PROGRAMME

QUALITY GUIDE

OF

OPEN AND DISTANCE LEARNING

PROCEDURES AND PRACTICES

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INTRODUCTION

This manual was written in the framework of the international project "*Quality Assurance of Open and Distance Learning*", with the support of the SOCRATES ODL *European Cooperation Programme*.

Our main objective was to analyse the European practice of quality assurance, and to develop a quality assurance distance education system, which can be an effective means of quality management in the area of open and distance training.

In the framework of the project the following elements of the open and distance education quality assurance programme has been developed:

- *Quality assurance manual*
- *Multimedia CD-ROM*
- *Distance training course*

The training programme provides assurance and guidance primarily for the managers and teachers in institutions applying open and distance education.
The programme aims to contribute to the development of the quality of open and distance training, disseminating modern training methods and the promotion of the European dimension in education.

The participating institutions in the programme:

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Concept, structure and use of the Manual

Concerning *distance education*, sufficient professional literature is available for those who are interested. The same can be said about the general literature of *quality assurance*. However, as the professional literature of quality assurance is completely general by nature, special interpretation is needed to use it in different areas. *Our manual attempts to offer this interpretation.*

As a work of international cooperation, the manual reflects a variety of approaches on quality assurance in education. Although the present experiences of the Hungarian partner already have some significance beyond this view, on the ground of the present practice we could not deviate more towards the use of the internationally increasing number of quality assurance standards. In spite of this, the *concept of the manual* and its structure makes it possible for the institutions that intend to develop quality assurance systems towards the direction of *standardised quality assurance*, to be able to interpret the process-describing part of the standard specified in distance education.

During the development of our programme we attempted to maintain a balance between distance education and quality assurance experts in the contributing international team. We also involved the representatives of potential user target groups, so that we can exactly mediate user needs. We benefited considerably from the quality assurance experiences of **SZÁMALK TCC,** which is one of the leading distance training institutions in Hungary, which since 1997, successfully meets the requirements of ***ISO 9001.***

The manual therefore includes only brief outlines concerning distance education as such, to which the parts dealing with quality assurance are cross referenced.

Its reason, as already mentioned, is that several foreign manuals deal with the quality assurance of distance education or, to be more exact, the assurance of quality. The one which we made is different from these in that it follows the ***principles*** such as:

- It takes the *experiences of standardised quality assurance* and its use as its starting-point.
- It applies the method of *self-evaluation*
- It is *"customer-oriented"* in that it "strings" distance education on a flow-chart considered from the viewpoint of the students, and where it is possible, it also takes student aspects into consideration, and encourages their active contribution of the students to the successful quality assurance activity

The ***concept*** chosen for the Guide is that on the one hand it overviews all aspects of ODL (most of it, not fully), on the other hand it concentrates on the aspects, which are of major importance for the key actors.

The ***key actors*** of the programme are to be categorised into three sections:

- *Course developers* (authors, educational specialists, media specialists, technical developers, course team managers, regardless whether they are working on the development of genuine courses or adapting already existing ones)
- *Supporters* of the learning process (counsellors, tutors, evaluators)
- *Managers* of the ODL structures (study centres, ODL sections of traditional educational institutions, open learning schemes at large)

For this reason, the basic viewpoint for the guide is the cycle of ODL course development, an other viewpoint is the learner and the learning needs, documented with elements coming from other perspectives (e.g. standard regulations).

The system of the Guide uses the element of ***Total Quality Management*** (TQM) and the ***EFQM*** model. The model was developed as a framework for the European Quality Award, sponsored by the European Foundation for Quality Management.

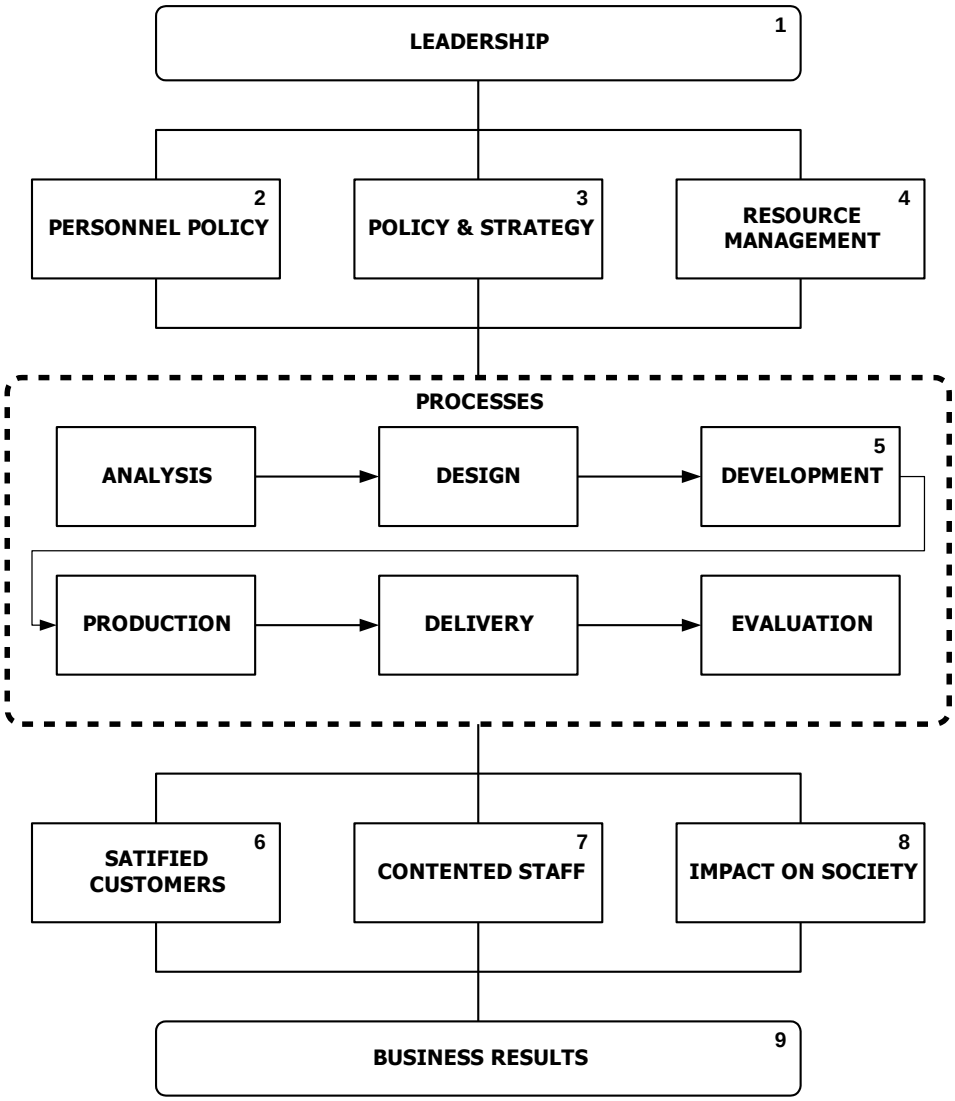
The major part of this Guide concentrates on the *"**Processes**"* of this model. The "Processes " are covered in five chapters, which are the elements of the ODL course development cycle:

- *Analysis*
- *Design and Development*
- *Production*
- *Delivery*
- *Evaluation*

This Guide does not cover all aspects of the other elements of the European model. These elements will be included in *Quality Guide part II*, which will be developed in the second year of the Socrates programme (1999-2000).

The manual does not include standards and its aim is not to detail the introduction of a kind of institutional quality assurance system. The basis of the applied method is the self-evaluation system, supported by creative and systematic supervision connected to each part or element of distance education.

The intended ***outcome*** is *continuous feedback and enhancement of quality*. Taking the recommendations of the manual into consideration, one can get an exact view of the quality issues of each step of the open and distance training course. As a result, the areas that have to be developed appear clearly to responsible people in charge of improving them.



The model of the Quality Guide

Self-evaluation in itself *does not mean* the development of quality, but it casts light on the areas, which need intervention. This is a *long run process*, which results in the better adjustment to the needs and requirements of the learners, in the higher level of educational service, and not least in the development of the financial results of the institution, apart from the satisfaction of the involved people..

Continuos self-evaluation is seen as an important aspect of quality development. We do not declare, however, how it must be done. After self-evaluation it is recommended to prepare individually the ***quality development plan*** of the given institution, and to coordinate the necessary means.

As the institutions in the area of distance education differ in several aspects (subject, training area, number of students, use of media, available technical appliances, etc.), we did not take it as our task to set up unified rules that concern everybody. Thus, in the end, each institution has to decide what good quality means concerning its own training context

However, self-evaluation can be the ***first step*** for the institution to introduce later, as soon as it is prepared, *a total quality assurance system*, or to apply an internationally accepted standard (as e.g. ISO 9001), which already means external audits and the elaboration of detailed documentation.

The manual is accompanied by a *CD-ROM*, with more detailed information concerning quality assurance. It uses hypertext system making quick availability of information possible. In addition we offer a training *course,* which supports directed and supervised acquisition of the knowledge on quality assurance concerning distance education.

As a first step of the application of the self-evaluation system introduced above, we recommend that each institution sets up a ***quality assurance team*** to evaluate the material of the book, and on this basis to supervise and develop each step of distance education and its entire process.

1. Quality assurance systems in ODL

What does "quality" mean?

Quality means to ***satisfactorily*** meet a specific, well-defined objective.

1.1. Quality in general

Two major aspects of quality are ***quality management*** and ***quality assurance***. Both of them can be built up introduced and used standardised, or independent from standards. In the following text we attempt to draw up the difference between them.

Quality management and quality assurance differ basically in that while quality management (whose most general form is ***TQM***, the systematic cooperation of the entire organisation in the interest of the quality of the product or service for the satisfaction of the involved people) is an internal matter of each organisation, the essence of quality assurance is external evaluation based on convention, we could say, it is the extension of quality beyond the organisation. The effect and result of TQM appears in the service and it only effects the market through the quality of the service. The process of the service itself can be entirely secret, or a process which is incomprehensible for the customer (as e.g. a heart operation): the essence is the quality of the final result, which is justified by the "market" on the basis of experiences.

Quality assurance makes the process of production in a sense public: the customer can get an inside view of the process-description. Whether the activity is really going according to the description is confirmed by an independent external organisation. This is the area where need for the use of international standards arises. Such certificates have sense if they are acknowledged at as many places as possible.

Basically, quality assurance is a standard concerning the form and content of the description of the activity. Here the exact performance of the process guarantees the satisfactory product. The market justifies quality – which is adequate to the convention - in advance. Here it is to be remarked that quality assurance as such has a direct concern neither in assurance, nor in quality, in their classical meaning. In the system of concepts of quality assurance, quality always means to meet a concrete need, where e.g. final exam is needed, a final exam with a mark 2 is also quality.

One expressive example of the concept of quality assurance is safety-fuse. A safety-fuse of 10 amperes is of quality, if it does not blow out in case of a current intensity of less than 10 amperes, but it does not resists a higher current intensity either, that is to say, it is what it has to be, what we declare it: a fuse of 10 amperes.

Quality assurance can be related to a standard e.g. European standard (EN), international standard (***ISO***) and the appropriate issues of the international ISO/IEC guide. The activity of the attesting organisations is supervised by national bodies, which congregate in an international organisation, and function according to agreed standards. This does not mean, however, that quality assurance can only be operated in a standardised form. A certificate, however, can only be obtained from a standardised system.

Summing up, two large areas of quality are: *quality management* and *quality assurance*. Both of them can be built up, introduced and used standardised or independent from standards.

Quality means that a product or service satisfies expressed or perceived needs of the users or beneficiaries (it is suitable for its function and of the institution ´s members).. In mass-production, manufacturers wanted to assure that the quality of the product should be steady. In the beginning they only controlled the quality of the final product.

During last decades, however, quality systems are applied, to not only control the final product, but also the entire production process and all the needed requirements.. This way they prove that errors are discovered during production or service implementation and usually they can be successfully remedied. In the course of the progress, quality systems have been extended to more and more areas of production: total systems, which extended to the entire organisation, evolved towards total quality management.

Total Quality Management (TQM)

Total quality management is an approach including all issues of reaching quality, which embraces the entire operating of the organisation. It is management philosophy embracing all activities, with the help of which the needs and requirements of the clients, the audience, as well as the objectives of the organisation can be met in the most efficient and cost-effective way, in such a way that we make use of the possibility lying in the efforts to improve all employees continuously.

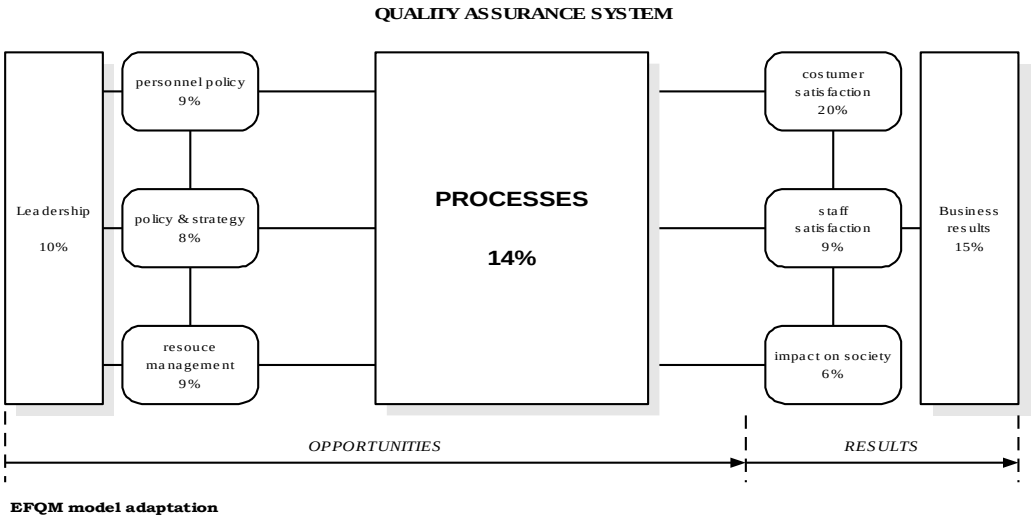
Stress is on continuous improvement. According to TQM both quality management and quality improvement, as well as quality supervision is realised.

TQM means a holistic approach, which induces individuals to look for the ways of improving operation of the organisation through independent action for the sake of a better operation, furthermore to recognise the close relation between satisfying the needs of the client and the objectives of the organisation.

Introduction of TQM requires management suitability and commitment, a wide training programme, the entire participation of staff, as well as acquaintance of such techniques and methods like statistical process engineering, Deming-cycle, Ishikawa diagram, Pareto chart, PEST and SWOT analysis, quality assurance and total quality supervision. It is generally believed that one of the most significant problems of TQM is to maintain the commitment of the operative management and the employees.
In practice TQM is realised the following way: within the organisation so-called quality circles or groups are formed including people with the same working fields, tasks, or those who work on the same activity together. These groups analyse and improve their own work continuously.

EFQM model

In 1988 The European Foundation for Quality Management was founded, which worked out the EFQM model, basis for the European Quality Award.
The EFQM model can be seen in the following illustration:



EFQM model adaptation

The model consists of 9 main criteria, which can be divided into two areas, the criteria group of conditions and that of results.

The model is based upon *self-evaluation*, which does not control and evaluate the quality of a product or service, but the activity of the entire organisation. According to the model the satisfaction of the firms and organisations' customers, employees, social effect, and their business results are examined. Conditions and results are of the same importance in the model, in both groups a maximum of 500 points can be given, (the maximum of points possible to give for each criterion can be seen in the illustration) so the total is 1000 points.

In the course of self-analysis the organisation analyses and scores itself in 9 areas. This way *weaknesses and areas most requiring improvement* can be revealed. After some time (generally one year) self-evaluation must be repeated, this way improvement can be measured.

After determining the areas to be improved it is advisable to set up *improvement teams*. The result of regular self-evaluation means the continuous development of both the organisation and the individuals.

Among the 9 criteria it is Processes which is connected most to the system of ISO. The EFQM model has to be adapted to the area of education. Under Processes the process of education should be meant.

The application of total quality management has the effect that the organisation, in the given case the educational institution gets more and more successful. This can be measured by the satisfaction of the customers (thus primarily the students).

1.2. Quality standards

When only final products were controlled, it was relatively simple to apply the standards concerning the features of the product. Standardisation of the process of production and service implementation is much more difficult. In spite of this there was an attempt to set up a standard which could be applied to each organisation and activity. The standard serial *ISO 9001,* which concerns quality systems, and is set up on the basis of British samples, was accepted in 1988 (ISO: International Organisation for Standardisation). The standard serial extended gradually, then the entire established standard system was reworked and the new issue was published in 1994 and 1996.

The standards signed *9001, 9002, 9003* give the backbone of the standard serial that concerns different activities. ISO 9001 is the quality assurance model of design, development, production, allocation and customer service; ISO 9002 covers only production, allocation and customer service; and ISO 9003 has an even shorter range of effect: final control and examination. The standard, however, contains so general formulations that it is very difficult to use in a given area without additional interpretation.

1.3. Establishment and operation of a quality assurance system

If an organisation decides for quality assurance, then the system developed and operated by should accommodate itself to the interests of the customers. Because of the complicated work division, some components of the product or service pass through several work phases till they get to the last users. Apart from that, the general customer interest can sometimes be considered as a public one. There are activities, products or business fields where also direct or indirect state supervision is felt. During the development of the quality assurance system, decision has to be made first of all on the way of the operation of the system, and to which areas of the activity should the quality assurance extend. The system can be worked out totally, or for only some particular activities. In the following, we describe the process of development and introduction according to the formal prescriptions of quality assurance systems.

After the basic decisions have been taken – in most cases with the help of consultants – the appointed activity field must be revised. The documents of quality assurance, the quality manual containing quality policy, the procedures and other directions must be prepared. After the preparations, the organisation can decide on the introduction and maybe on the external – independent - attestation of the quality assurance system. In such cases attestation is made by companies and persons having the right to attest. In the course of the audit, the attesting person/company investigates all the quality documents of the organisation, and checks on the premises whether the activity is going according to them. This investigation has

limited duration, and cannot even be embracing. On the basis of the documents and the investigation on the spot, the accrediting person/company can issue the certificate according to the standard model or profile of quality.

1.4. How can we benefit from the introduction of quality assurance

- A clear system of operation
- Operation, which is more independent from individuals
- Greater effectiveness
- A clearer system of roles, responsibilities, and spheres of authorities
- Clearer definition of rights and duties of participants
- A recognition by external (sometimes prestigious) institutions.

1.5. Steps towards the introduction of a system of quality assurance:

1. *Inquiry*
2. *General training*
3. *Setting up of the "chiefs of staff" of quality from the staff of the institution*
4. *The "chiefs of staff" of quality document its quality policy*
5. *Preparation of a work-plan*
6. *Planning the main outlines of the quality system*
7. *Appointment of the person responsible for the programme*
8. *Selection of the adequate model*
9. *Preparation of the first version of the quality assurance manual*
10. *Development of procedures, preparation of directions*
11. *Carry out the first internal audit*
12. *Error corrections*
13. *Supervision of documents*
14. *Possible correction of such documents*
15. *Carry out the next internal audit*
16. *Error corrections*
17. *Supervision of documents*
18. *Possible correction, etc.*

1.6. Economical projections of quality assurance

Quality assurance implies costs. These costs increase significantly if an externally attested quality system is introduced. Preparation itself needs extra time-input, which causes additional charges, and the costs of attestation and maintaining the system are also high. Costs can be compensated through the benefits resulting from the adequate quality of the activity.

After a short transition period, the costs related to the errors of operation decrease abruptly because of the obstruction of the errors of operation. Besides, costs are recovered mainly through the improvement of market positions: it is easier to gain the confidence of the customers; the costs of customer-service and reparations are lower.

2. Analysis

What does “analysis” cover?

The first step in the introduction of ODL is analysis, the aim which is to define the target groups, their needs and the anticipated outcome of the training.

2.1. Introduction

Open and distance education is an increasingly applied training form, and a kind of service where not only the maximum efficiency of education has to be reached. Apart from that, it is more and more accepted that the content of the training should meet the needs of the students.

The first step in the development of the open and distance training programme is the ***definition and analysis of needs.*** The purpose is for us to meet the requirements of the educational market. Within this field we have to satisfy several kinds of needs. In this field one important issue is ***educational marketing***, whose aim is:

- To define needs in the different fields of the educational market
- To define the most effective way of product or services distribution for the customers according to the market demands
- To search for methods to influence market demands.

Open and distance education is also a service, and as such, there may create conflicts, contradictions and quality gaps in professional expressions during disposal.

This is illustrated by the following quality model:

Service Marketing Model

Market demand: expected service

The management has assessed market demands

Specification of the service

Implementation of the service: obtained service

Communication of the service towards the customers

2.2. Market analysis

2.2.1 Characteristics of the open and distance education market

From the point of view of distance education management motivation is the need, which generates demand, making disposal of the course possible.

The intensity of demand (level of motivation) may change, but it is worth separating at least three levels:

Demand is induced by incentive
(e.g. a kind of post can only be occupied with a certain exam, certification)

Demand is induced by interest
(e.g. a better post can be occupied having certain knowledge, such as computer knowledge.

Demand is induced by expectancies
(e.g. he/she is interested in the use of Internet, thus he/she wants to learn it).

Primarily we have to keep in mind the needs of the future students of the distance education course, both in the short and in the long run. Unfortunately designers of the distance education programme do not usually follow with satisfactory attention the needs, requirements, expectancies, motivation and learning possibilities of the students.
From the point of view of quality assurance we subordinate education, as a business process, to the final result, so we consider it from the learner's (as customer) viewpoint.

The possibility to implement distance education courses is determined by the extent to which it provides *special knowledge*. Usually a higher demand arouses in the case of special knowledge that is wished by its customers..

In the educational market appear ***as buyers*:**

In the consumer markets:

Individuals, who wish to learn due to some kind of motivation

In the organisational markets:

Companies, institutions, government bodies (e.g. it is advisable to train a high number of employers at a national or multinational company through distance education)

Asks for information from the training institution have to be recorded. This may have various forms: personal inquiries, by phone, or by mail. A record system should be developed. Personal inquiries have to be recorded as well as by phone inquiries.

Records should be analysed in detail. Candidate students of courses (which were not launched because of small number of applicants or other reasons, or which were ceased in due course) have to be recorded as well, as potential students of other similar courses.

The market participants of ODL

In the course of the disposal of services and products, two important types of markets are distinguished (besides other market categories):

- Consumer markets
- Organisational markets

Consumer markets consist of individuals who buy products and services for personal consumption

Organisational customers

Organisational relationship should be developed with companies and institutions which satisfy internal market demands in the form of distance education as well. As these customers usually want to train a high number and groups of their employees, there is a possibility for us to satisfy special demands. A particular person or department should be appointed at the institution, to keep contact with these market participants.

Organisations not only buy, but they also sell. The providers of distance education for this specific market can be:

- Individual institutions specialist in distance education (e.g. UNED)
- Departments of face to face educational institutions that also deal with distance education
- Small firms, educational enterprises etc. that offer distance education programmes.

One of the first steps in organising the offer of distance education is to consider who needs, what and how it can be effectively satisfied. In the interest of the above mentioned purposes several tasks have to be performed: the market should be made of individuals and institutions; its aim must be to provide initial information for the organisers of plans or programmes of distance education or training.

On the basis of market analysis we can

- Define market segments
- Determine users' profile
- Predict expected user ´s reactions
- Establish the market size.

The first step is needs assessment. This may vary for different organisations and organisational types.

For *companies:*

- Demands are assessed at company units
- Training has to be analysed

For *educational institutions:*

- Analysis of applicants and those who really enrol are required
- Analysis of previous inquiries for information should also be made.

Planning of the training needs with respect to the individuals and making the modules consistent with each other is one of the important principles of distance education. If we want to implement tailor-made education for the individuals, it is clear that we have to assess training needs mostly at the level of each individual. If we force somebody to learn a material that is not really relevant to him/her, this can lead to the loss of motivation.

Definition of the training needs of the target learner groups

In ODL we put the learner in the centre. In the course of the analysis this is the main target group, the most important category. They may form several kinds of groups, whose exact definition is an important condition of the success of the product or service.

Target groups should be:

- Closed: well-known group, e.g. college students, who have already enrolled to the given course
- Open: social groups such as company managers, etc.

The secondary target group can be formed by learners, who partially or wholly use the material previously designed for other target group. As a distance education programme usually consists of modules, it makes possible to involve learners with different needs, who only participate in some parts of the programmes. Potential secondary target groups must also be explored during previous analysis and must be taken into consideration during the development of the course.

The definition of the learner needs depends on the components of the target research is needed.

2.1.2. Analysis of the learners profile

Previous to the training, characteristics and environmental conditions of potential students must be analysed in detail. It is useful to carry out the same among the real participants of a running course.

In the course of this we can get answers to several questions such as:

- *What is the learner ´s motivation: is it related to job, progress, or other factors?*
- *Who sponsors their studies: do they get support from the employer?; do they have any other source to successfully complete their studies?*
- *Where are the main facilities where students are placed?: home, educational institution, consultation centre, workplace, etc.?.*
- *Availability of the supporting services (tutor, videoconferences) of the training institution*
- *Access to necessary technologies (e.g. computer, Internet, radio television programmes, video recorders, etc.)*
- *Level of motivation obtained from workplace or family*
- *Is the number of students enough to start a course?; should we form several groups of students?.*

Characteristics of the learners

- Differences of age and sex
- Preliminary knowledge and level of qualification
- Previous experience in distance education
- Motivation for self – education
- Environmental conditions
- Language skills
- Other features: disadvantaged, drop-outs, career- starters, isolated learners, learners motivated at different levels, etc.

2.1.3. Market segmentation

In practice, users of an educational service can be grouped on the basis of their characteristics, whose members have several common features. This divisions of the market into groups is called segmentation. Segmentation is especially useful to assess the needs of wide learner´s groups, that give the bases of courses on aspects such as:

- Development of new educational programmes and teaching materials
- Knowledge of distance education markets

- Selection of media and aids
- Definition of specification

Definition of the market size

It could be relatively easy in some cases (e.g. in the case of a particular company's needs), while other markets may be more difficult. The following items should be defined:

- What is the size of the potential market?
- Is it possible to sum up previously defined segments?
- To what extent does the market change, increase or decrease?
- How do the segments change compared to each other?

In the course of analysing the market share it is also necessary to follow with attention and to analyse competitors.

It is important to analyse lifespan of programmes and materials.. In education several teaching materials and other services have a limited lifespan and, after that, they are out of date must be changed.

Market analysis makes possible to collect information about needs and lifespan, to plan for the future, and to define the duration of the course or service.

The lifespan of the product can generally be divided into 5 phases, through which each one the product passes:

- *Introduction*
- *Growth*
- *Maturity*
- *Saturation*
- *Decline.*

The educational institution has to perform continuous market research activity and to evaluate educational needs.

The system theoretical definition of training needs consists of several steps:

I. Definition of purpose and conditions of analysis
II. Definition of the adequate evaluation process
III. Implementation of analysis
IV. Evaluation of results and of the training purpose.

2.3. Definition of purpose and conditions of analysis

The purpose and requirements of the assessment and analysis have to be exactly defined. This includes assessment of available human and material resources. We

must decide whether we involve or not external experts, how much time and resources we have to perform the task, etc.

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*For this task it is worth setting up a **team**, which not only assesses the needs but, after the convenient analysis, is able to clarify concrete learner's needs and training purposes.*

This team can consist of organisers of education, educational managers, marketing experts, representatives of companies and of business spheres.

Task of the team:

- Definition of learner and market needs
- Definition of the purpose and content of the course
- Assessment of the financial background of the training

2.4. Definition of the adequate evaluation process

2.4.1. Definition of the methodology of the training

From the several existing methods of analysis we have to select the one which is the most effective from the point of view of the training institution and the training people. This can be influenced by many factors, including:

- Size of the institution
- Expectations towards the elaborates of the analysis
- Available time to perform the task
- To what extent are material resources ensured
- Availability of the target group or market segment
- To what extent are the data gained through interviews, personal and other contacts during the analysis confidential or able to be published.

Means of analysis, recording of data, their systematisation, schedule of interviews, costs and level of administrative support must be defined.

2.4.2. Definition of the area and extent of analysis

It depends on the following aspects:

- Lifespan of the course (duration, flexibility, structure, adaptability)
- Knowledge and qualification
- Variability of subjects
- Flexibility of qualifications

- Development costs (design, development and assessment)
- Need for new training
- Possibility for further development of existing courses and materials

2.4.3. Elaboration of development plan

Analysis is preceded by its planning. Detailed schedule of the implementation must be worked out, with deadlines, responsible people, financial and material resources attached to the part tasks. The method and the responsible people for supervision must also be defined.

2.5. Implementation of the analysis

During the analysis of needs measurable results must appear, which also have to be qualified. As we put the learner in the centre of the open learning system, the main aim of the analysis is:

to define individual needs (learner needs), and target groups ´s needs.

One possibility to describe buyer behaviour is to consider factors which influence buyer's decisions. The most important ones could be:

- *Do the conditions of the given educational service meet the needs?*
- *Is the price convenient?*
- *Is there service after sale?*
- *What repute does the training institution have?*

2.5.1. During analysis we have to define:

- User target group
- Category of employees
- Geographical situation
- Potential number of learners
- Present level of qualification of the target group
- Components of the target group
- Target group ´s needs for achievement
- Business requirements.

In this phase of the analysis it is useful to define some of the cost-components, such as:

- Market environment *and* competitors
- Learner ´*s* capacities
- Potential number of learners
- Lifespan of the course
- Financial resources
- *S*haping of existing human resource market needs.

However, the definition of needs consists of more elements. As a consequence, other factors have to be taken into consideration as well during the analysis. We can mention here:

- Business aspects generated by the employers who send the learners to the training programmes.
- Macro-environmental conditions and requirements
- Feasibility of the training
- Capacity of the training institution, its possibilities and limits
- Vitality of the course
- Possible external or internal pressing conditions.

Guidance and up-to-date information service must be provided for the potential users about the training possibilities, so that they can take part in the training that meets their needs most.
It must be defined, to what extent did we manage to harmonise user needs and learner requirements.

2.5.2. Collection of data

Possible data sources can be:

- Potential learners (preliminary possessed knowledge, qualification, attitude towards flexible educational forms, etc.)
- Supporters: business and achievement requirements
- Data recording and analysis in computer information systems
- Educational units of large companies
- Requirements of social organisations, state institutions and other sources.

Corporate users (large companies or institutions) have to expect from the training institution to assess their needs, and to conform to them. We must follow with attention the need of accommodating to their previous needs.

2.6. Evaluation of results and definition of the training purpose

Data resulted from the analysis must be evaluated. It is useful to sum them up in an ***Evaluation Report***.
All data may be important for the designers of the course, the organisers of the training, and maybe for its supporters and customers. Course developers have to harmonise the development of the programme and the training needs. The analysis and definition of needs must include:

- Definition of purposes and conditions
- Requirements of employers
- Necessary teaching materials and means to achieve purposes
- Definition of critical factors: outputs, environment or expected difficulties

- Necessary knowledge and qualification for starting.

Among these, definition of the training purpose is of crucial importance. The results gained on the basis of the analysis must be built in the plan of the distance educational system. The will determines the content and structure of the training, the applied media and methods, and also the costs.

Exact definition of learner needs is in itself not enough for the success of the training. In distance education it is necessary to clear away other obstacles as well, in order to make the training available. Personal support and help are needed in individual learning.
This is the explanation of the fact that it occurs in several cases that, although we have correctly defined the needs concerning the content of the course, it has not however, resulted in a successful course. That is to say, the need not turned itself into learning desire, as it has not met the needs of other aspects.
During the training and after completing it, positive or negative feedback from the learners must be ensured.

During the development of the programme training needs must be analysed, and possible modifications must be made on the basis of feedback. It must be defined to what extent did we manage to harmonise the user ´s needs and learner´s requirements.

3. Design and development

What does "design and development" mean?

The output of the previous stage (analysis) is a conception of the course. This conception is the input of the "design and development" stage. The result (output) of the "design and development" stage is designed/developed course materials that are ready for production.

3.1. Introduction

3.1.1. Peculiarity of ODL processes

In comparison with face to face education and training, course design and development in an ODL environment is a more laborious undertaking. The course needs more flexibility, as the learner group is mostly greater and less defined; the course content needs far more detail and elaboration (better explanation, embedding of exercises and assignments); learner ´s support must be more carefully planned; etc.

For this reason, an ODL course will be most of the time developed by a team, although an individual may also develop the course in an exceptional case.

However, team work has the advantage to enhance quality: by sharing the work, which enables each team member to concentrate on a smaller task and to invest more effort; by creating a work environment in which each content part can be worked out by the team member who is the most familiar with the topic; by enabling specific input be given by educationalists, media and technology specialists; and by peer reviewing of intermediate products.

3.1.2. Preparation

Before starting the actual design and development, it will be useful to weigh up constraints and resources. A (not exhaustive) list that can be considered will include the following aspects:

- What is exactly expected ?
- In what time ?
- With how many people ?
- What is the expected input of every person (type of expertise, time limits, previous experience with ODL) ?
- How will the team communicate ?
- When and how many meetings will take place ?
- Which (e.g. technical) facilities can be offered to the developers ?
- what equipment will be needed ?

It might be possible that, prior to the design and development, some training about ODL methodology in general, and the development of ODL materials in particular, might be needed by the team members.

3.2. Design

Output of the design process is a course description, based on the outcomes of Part 2 - Analysis to plan the development, production, delivery and evaluation of the course.

The design process should:

- Create course *aims*
- Outline the *contents*
- Outline the *delivery system*
- Outline the *evaluation strategy.*

3.2.1. Create course aims

Course aims are the specifications of the general goal of the course, as output of the *a*nalysis (the needs of learners, company and/or society matched with the learners' profiles and the contextual constraints in which the course will be delivered).

These aims should be specified in terms of the type of knowledge, abilities/skills and attitudes that the learner should obtain when he/she completes the course.

Aims are more specific than the general goal (that resulted from the analysis), but less concrete than the objectives (that will be specified in the Development stage).

Match the learner´s profiles and the (adult) learning principles

Learning is an active, constructive, cumulative and goal directed process. It is active, in that the learner must do a number of things (and certainly invest mental effort) to process incoming information and turn it into meaningful matter.

It is constructive, in that this activity consists in the elaboration of information and in establishing relationship between new information and the already mastered knowledge.

It is cumulative because all new learning builds on and/or uses the learner's prior knowledge.

It is goal directed as learning will probably be successful if the learner is aware of the goal she or he is working toward.

Important learner characteristics that should be taken into account within the designing process are:

a) The learner's prior knowledge

Including declarative knowledge ('knowing that') as well as procedural knowledge ('knowing how to do') within specific domains, within more general (but relevant to the learning) domains and about the learning and instructional process ('how to learn')

The learner 's prior knowledge and experience should be directly responsible for the structure and didactic support that the learner is offered during the course (uninformed, unskilled learners need more structure, interaction and feedback; while gifted learners need more freedom, as they work better in open learning environments with many exploratory opportunities)

b) The learner's motivation

Execution of learning tasks implies the investment of (mental as well as physical) effort. The basic condition for this investment is the existence of learning motivation.

Motivation can be intrinsic (the learner is motivated by her/his willingness to learn *and* is challenged to discover new knowledge) or extrinsic (motivation to learn is found in rewards that lay outside the learning process and its outcomes, e.g. social recognition of the learner's value as a person, professional promotion as a consequence of the acquisition of a certificate, *etc*.).

Intrinsic motivation, is the most powerful one, and is well supported by learning tasks that challenge the learner (but, in any case, they should be perceived as situated within reach of the learner ´s own abilities).

Motivation can also clearly be affected by mates: co-operative learning supports the students' motivation by increasing their own self-efficacy (the individual student expects being able to cope with more difficult tasks and to persevere better due to the support of the learning group), the students' learning goal orientation and their intrinsic valuing of the learning task. This aspect is especially important to be considered within the design of ODL, as cooperation can be easily overlooked in favour of individual study.

c) The learner's learning styles

Learning styles refer to the consistency in which individuals respond spontaneously to a learning tasks. A number of dimensions have been identified within learning styles. Examples are:

- Assimilation versus accommodation style (the learner is more passively dependent upon information and support of the learning environment, or actively imposing his/her own structure on the environment).

- Whilst versus analytic style (the learner tends to process the information as an entity, in a synthesising approach, or to analyse the information by breaking it down into parts)

- Verbal versus imaginary style (the learner is, while thinking, rather representing the information in a verbal way, or in mental images)

- Visual versus auditive style (the learner prefers auditive instruction or *a* visual one).

An individual's learning style will likely be a composition of several of these dimensions, in varying levels. It is however important to notice, that learners perform clearly better when allowed to use their own preferred learning style.

d) The learner's metacognition

Metacognition refers: on the one hand, to the knowledge (cognition) about one's own prior knowledge (including abilities), motivation and learning style; and, on the other hand, to activities of self-regulation.

Regulation of the learning process encompasses the orientation toward learning goals, the planning and tuning of learning activities to reach these goals, the mobilisation of relevant prior knowledge and skills, as well as the motivation to perform, and the monitoring of the learning process by using feedback.

Self-regulation (the learner is in control of the learning process) is the complement of external regulation (the teacher or the programme is in control). Self-regulation is superior to external regulation if the learner has the necessary study skills and – in the case of ODL - understands the programme sufficiently to take over the building in regulation devices.

Additional characteristics

A number of other characteristics should be taken into account while designing courses, as far as they are relevant. Not only prior knowledge and abilities, but also intelligence and aptitude of learners will guide the degree of the course content: this one can be complex, more or less elaborated and structured.

Cultural backgrounds should also be considered if courses include learners from different countries, cultural societies and languages: specifically the communication (and hence interaction) between teachers/tutors and learners, and between peers is affected by the cultural background of the actors (e.g. what is comic for some can be experienced as offensive by others).

Consequently, the course design should:

- Motivate the learners
- Mobilise the learners prior knowledge and experiences
- Take into account their abilities and cultural background
- Anticipate the variety of learning styles
- Enable and stimulate activity from the learners´ side
- Provide sufficient feedback for evaluation by the student whether progress is made toward the objectives (self-regulation)

Generally, adult learners are highly motivated but very critical, especially with respect to the relevance of course contents for the learner's own objectives. Attention should be paid to the following aspects:

- Content should be problem centred, rather than subject centred
- Content should have immediate relevance for application (and give meaningful instructional assignments and cues)
- The course should stimulate active participation
- The course should use learner's experiences (mainly the professional ones)
- The course should enable self control by the learner (provision of tests for understanding and mastering, provision of feedback)
- The learners' individual learning style should be taken into account

3.2.2. Outline the contents

Outlining the contents deals with content selection and content sequencing.

With respect to content selection, the designer may decide approaches that are either subject-centred or learner-centred. A learner-centred approach takes maximally into account the learners´ profile (as described above in its components) and searches appropriate contents to match with the profile.

The subject-centred approach disregards largely this profile, and selects content elements primarily on the basis of subject relevance (e.g. key concepts and principles) and internal logic or episthemological system of the subject.

The same counts for sequencing: a subject-centred sequencing refers to the criterion of (again) internal logic of the subject (e.g. first deal with principle 1 and then with principle 2, as the second builds on the first), while the learner-centred sequencing takes also the "psycho-logic" into account: characteristics of the learner's profile (e.g. their prior experience) to guide the sequencing of contents. Principles that can be considered are consequently: from simple to complex, from known to unknown, job performance order, and change of perspective (whole-part-whole).

The outlining of the course contents remains at this stage rather rough: it only specifies the larger blocks of the course, which will be detailed during Development.

3.2.3. Outline the delivery system

A delivery system can take many formats, depending on methods and media that are used to present the course materials. Basically the design will opt for either group learning or individual learning and choose for (eventually a mix of) various media (lecturing, labs, printed materials, videos, computer based learning, multimedia, face-to-face tutorials, computer mediated interaction, etc.). Which combination is chosen will depend from the following aspects:

- Objectives and nature of the course content
- Availability of media and the ability of learners (and instructors) to use specific media
- Contextual constraints (e.g. mobility of learners, distance to institution, seize of the learner group, etc.)
- Cost-effectiveness for development and delivery

3.2.4. Outline the evaluation strategy

Evaluation should measure whether learners meet the course objectives. It is therefore important that objectives should not only deal with subject matter in terms of knowledge, but also in terms of skills and attitudes, and where appropriate pay attention to the application of what was learned in the job.

A second element of evaluation strategy faces the reception of the course by the learners. In the design stage, measurement tools should be identified that can cope with this element.

3.3. Development

The development uses the course description, as the result of the Design stage, to shape the actual course. The development process consequently goes along similar pathways as the design process, but working out the various steps. This process will imply the following tasks:

- *Specify course objectives*
- *Match the learner ´s profile*
- *Develop the contents*
- *Select and prepare media*
- *Plan de evaluation strategy*
- *Adapt materials.*

3.3.1. Specify course objectives

Course objectives are the specifications of the general aims of the course, as output of the Design. Aims can deal with "understanding", "appreciation", "being creative", etc.; objectives must provide specifications that enable the evaluation to assess if a learner reached the understanding, appreciation, creativeness, etc., which was aimed at.

Objectives can be formulated for the course in its whole, or for parts of it (e.g. learning units, sections). They must be specified in terms of what learners should know, be able to do and believe/behave after completion of the course or the course part. Objectives are to be considered as achievable, hence measurable/observable performance requirements, and should detail not only content (whether cognitive, motor or attitudinal) but also the level of competence that the learner should master.

Objectives are, in other words, the analytic breakdown of each aim. Each objective needs to have the precision that enables (easy) measurement, be necessary to achieve the corresponding aim, and be complete as to cover the competence ground that was implicit in the aim.

3.3.2. Match the learner profiles

During the design stage, prior knowledge was taken into account within the learner ´s profiles description. Now it is time to specify such knowledge.

3.3.3. Develop the contents

Educators and trainers tend to concentrate on this aspect of the course design and development. Many of them even start spontaneously a course design/development by directly drawing a list of course topics, thus forgetting other facets of design and development.

Content selection is often approached as an iterative process: an initial brainstorm of topics (and eventually their interrelations) is gradually extended by detailing the content of each topic. The process can be supported by consultation of the following resources:

- Existing material such as:
  Other ODL courses on the same or similar topics (written materials, CBT packs, multimedia packs, web based instruction, practical kits, etc.).
- Conventional non-ODL materials (handbooks, textbooks, exercise books, etc.)
- Literature (journal articles, books)
- Colleagues (peers in the same content speciality)
- Other resources (manuals, leaflets, newspaper articles, encyclopaedias, encyclopaedic and specialised CD-ROMs, etc.).

It is important that the collection of topics (and useful elements) be confronted with the results of the corresponding considerations from the design stage. These considerations should also govern the sequencing of the collected topics and materials.

This stage must have sufficient attention. When working with a course team, the team should discuss both selection and sequencing defined by each participant as well as look to the overall selection and sequencing of the course. Special attention should be paid to eventual redundancy and overlap. This should be avoided, unless clear arguments for the opposite can be given.

It can, for instance, be wise to repeat complex elements in the course by approaching them from different angles or by presenting the information in different ways (as textual information, as illustration in a concrete example, by summarising the information in a table, or representing the information in graphical format, etc.).

Sequencing can be done from various viewpoints. Some possibilities are:

- Structural logic (as to be found in the scientific logic of the content)
- Chronological (e.g. in historical subjects, but also in handling procedures)
- Concentric circles (each new topic involves the previous ones)
- Spiral sequence (each new topic revises ideas already dealt with, but on a deeper level)
- Causal sequence (following a cause-effect chain)
- Backwards chaining (starting from a result and going to its roots)

- Problem-centred (all elements are sequenced around a problem which has to be solved by the learners)
- Project-centred (all elements that are part of a particular project part are put together)
- Learning-centred (elements are sequenced according to the learning styles of the learners)

Once selection and sequencing has been defined, a first draft of the learning materials can be made. Points of attention in this drafting process should focus on instances, concepts, relations, rules and procedures, with respect to:

- *Correctness of the provided content*

Not only learners, also experts (content specialists) sometimes overlook mistakes or suffer from misconceptions. As a consequence, careful reading and re- reading (and if possible through peer review) may avoid such embarrassing problems.

- *Completeness of the content*

Completeness not only refers to the availability within the course of every necessary element (during drafting it is sometimes found out that some elements were overlooked) but also to a sufficient level of explanation, needed by the learners' prior knowledge and abilities.

- *Functionality*

It will be considered in relation to other topics within the course and, eventually, subjects in the curriculum Selection of elements must be relevant. As the case with completeness, drafting confronts the author with elements that could have been overlooked with respect to relevance. The drafting process should bring correction.

- *Consistency and coherence of content*

Especially in course materials that are jointly developed in teams, consistency of terms, concepts, procedures and coherence of the content must be monitored to avoid that learners get the impression to deal with different and refracted or isolated information elements, where the opposite is the case.

- *Size of the content*

Size is one of the determining factors of study load. Certainly in ODL courses, where external control remains restricted, the size of the materials have a profound influence on the time-on-task and on the motivation of the learner.

Develop learning support elements

Two types of support items should be considered: elements that support the understanding of the information, and elements that support the (self-) regulation of the learner.

a) Understanding the information

ODL materials are intended for learning without direct contact between teacher/trainer and learner. More than in learning materials that are in use in face to face teaching/training, examples, tables, graphics, illustrations, cases, demonstrations, etc. should be provided.

b) Regulation of learning

To support the learning process, a number of aids can be offered to the learner: description of objectives, introductions, questions / exercises / assignments (eventually with embedded feedback), applications, summaries, key concepts, study hints, etc.

Development of learning activities that support the regulation (questions, exercises, assignments) is important as it can help them to:

- Understand and remember key concepts
- Think for themselves
- Learn by doing
- Relate the course content to their own situation
- Bring in their own experience and examples Reflect on their own thoughts and feelings
- Identify their own strengths and weaknesses
- Discover their own learning styles.

It is important, however, to leave the initiative of using these aids to the learner, as skilled learners can be hindered (negatively influencing their results) by unnecessary hints for them.

3.3.4. Select and prepare media

On the basis of the "outline for delivery" as drafted in the Design, media can be selected and prepared. It is however important to realise that the choice of media only marginally affects the learning result: similar results (in terms of learning outputs) can be obtained with whatever medium. Media may nevertheless influence the motivation for learning and the time needed to master a given task.

As a consequence of these observations, some people advice to choose media on the basis of contextual constraints such as availability of specific media, cost-effectiveness, familiarity of users (learners, developers, tutors, course managers) with specific media, etc. Others however consider the nature of media as the leading factor for media choice.

The basic assumption is that media within ODL are used to replace, eventually partially, the educational relation between teacher/trainer and learner in non-ODL settings. This relation can be classified into four categories:

a) Expository

The teacher/trainer is presenting a content to the learner. The learner is just the receptor of the message without undertaking action from his/her side. A lecture is a typical illustration of this type of one way educational relation; as it is also a demonstration.

In lectures and demonstrations the teacher/trainer is visibly active, the learners' activity is largely restricted to the mental effort of "understanding" (making the implicit structure of the discourse explicit, trying to relate the new information to what the learner already knows, and to what is communicated on other moments within the lecture or in other subjects).

b) Interactive

The teacher/trainer dialogues with the learner, each of them reacting on the actions undertaken by the others (the teacher/trainer putting questions and giving assignments; the learner responding or asking questions for explanation; the teacher/training providing feedback). Examples of this kind of relation are exercises, labs, work sessions, etc.

c) Adaptive

A specific kind of interaction is the one in which the dialogue is established to regulate the teaching/learning process. This typically takes place in tutorials, in which teaching is adapted to individual progress of the learner.

d) Communicative

Where in the former relations the initiative is primarily taken and the action is largely controlled by the teacher/trainer, the communicative relation aims at real two way communication, in which both partners are sharing the control and are able to initiate the action. Communication can not only take place between the teacher/trainer and the learners, but also between learners as peers.

In face to face settings this communication will mostly take place outside the structured instruction (after lectures, during counselling, in the café, etc.)

This classification, although somewhat arbitrary, enables to select media by considering the educational activity that is aimed at. Such media could be classified as:

a) Expository media

Printed documents, audio-cassettes, videos and television (terrestrial or satellite), CD-ROMs and digital video discs (DVD) can be considered as typical expository media. Their function will be limited to presentation of information, illustration and eventually demonstration.

The use of information technologies has extended the (un-)flexibility of these media by breaking the linearity of the discourse through the provision of hyperlinks, which enable learners to easily jump to connected information.

As a special case, although not of a typical expository nature, drill and practice programmes and self assessment question sets may be mentioned here as well.

b) Interactive media

The most typical interactive media are simulations and modelling. Simulations are computer programmes that represent a specific aspect of reality through a model that allows the user to change the value of parameters of the model and see the impact of these changes in the results when the programme has run.

Simulations support experiential learning by enabling learners to test hypotheses, under condition that they understand the model and that the learning goals of the simulation be clear to them. It furthermore helps the development of qualitative, quantitative and instrumental reasoning.

Special cases of simulations are modelling, microworlds and virtual realities.

A modelling programme enables the user to create the model of a system, then run it and compare the results with data from the represented reality or from the programme's model (after changing values of parameters). As the learner constructs the (mostly mathematical) model itself, learning is extended to application of concepts, procedures, theories, etc.

Using the methodology of simulations and modelling, the user of microworlds creates or constructs an artificial reality. The learner is, in other words, not only able to change the values of parameters; he/she can also decide on parameters themselves, on their interrelations and rules for procedures to shape the microworld while programming it. Creative application of what was learned is aimed at.

Where simulations and microworlds represent reality in various forms (e.g. graphs, tables and / or sometimes animated graphics), virtual realities try to give a real impression of the represented (physical or artificial) reality through the use of sophisticated (close to) real time 3D animations and sounds. Although more attractive, virtual realities support similar kinds of learning as conventional simulations.

c) Adaptive media

The better kind of computer based instruction/training (CBT) have tutoring characteristics.

In its basic design, CBT follows a sequence of specification of a learning objective (introduction to the topic), giving a task about the topic (questions, assignment), interpretation of the learner ´s performance on the task (provision of feedback) depending on the performance, selection of the next topic and repetition of the sequence.

The selection can either be linear or branched (going to a section that matches the kind of learning need as demonstrated by the performance. E.g. returning to a previous task, jumping to a remedial element, progressing to the following task, skipping an intermediate task, etc.).

Higher order types enable the learner to have control of the programme, which implies that specific parts can be directly taken up or repeated, through means of menus, an index, hyperlinks, etc. Some will have build in features as e.g. a glossary of terms, a calculator, a spreadsheet, a database, etc. that are instrumental for the learning to which the programme aims. The better ones will provide contextual feedback, differentiating between mistakes as a consequence of misspelling or miscalculation and errors that prove a deficient learning result.

Tutoring systems (sometimes also called “intelligent tutorial systems”) emulate an individualised tutor. They are called intelligent, as artificial intelligence is used to support the learning process. Although a lot of research has been invested in their development, the complexity of such systems is so high that there are only a few (not completely satisfactory) examples.

d) Communicative media

These media are specifically used to establish synchronous or asynchronous communication between the actors in the instruction/learning (teachers/trainers – learners, learners – learners).

Typical synchronous media are audio and video-conferencing, whereas computer-mediated conferencing is primarily an asynchronous communication medium.

Audio-conferencing consists of a structured group discussion by telephone. It is sometimes used to replace face-to-face tutorials, but needs careful planning and firm chairing to be effective.

Video-conferencing is a one-to-one or multi-point conference that enables auditive as well as visual contacts, by using ISDN telephone lines. Some systems even support additional remote control of applications that are

running at the same time on computers in the connected sites ("application sharing") and the use of electronic blackboards. Although designed for interactive communication, video-conferencing invites also to be used for lecturing; and many applications of the technology will address this possibility.

Computer-mediated conferencing is a combination of e-mail (individual communication) and group communication ("news groups", "list servers") with exchange of file (ftp) possibilities and sometimes also limited chat functionality.

Although these communicative media are only operational during Course Delivery, it is important to recognise their existence and usability as part of the planning of the learner ´s support during development.

e) Multimedia

The term multimedia may point to two realities: either the mix of various separate media is intended (wherein each medium serves for specific purposes or content delivery), or a combination of various media on one single "carrier" is meant. CD-ROMs are often considered as examples of the latter, although the only example of full capability is for the time being the Internet. Web based learning as deliverer of ODL courses, including the communication between the actors is therefore gaining rapidly support.

Plan the learner support as part of the delivery

Either this support is embedded in the materials (as already mentioned under "regulation of learning" above), or is offered during Delivery as an add-on. As the choice affects the learning materials themselves (what is given, to which level of detail, with what level of feedback), the final learning support should be considered here.

Eventually, the expectations with respect to added support during delivery should be defined and communicated to managers of the ODL scheme in which the learner will take up the course.

3.3.5. Plan the evaluation strategy

Objectives are necessary conditions to develop learning materials, but they are not the only requirements. If the evaluation is not following the intentions of the objectives (e.g. compare the intention of having the learner understood the contents at a deep level, with evaluation that only checks for immediate reproduction of factual information) learning will derive to not intended directions. Therefore it is important to outline already during development the evaluation strategy.

A second, and probably even more important reason for planning in this stage the evaluation strategy is the eventual *accreditation* of the course. Accreditation bodies will use criteria that should be taken into account with respect to content and to

level of mastering of this content by the learner after completion of the course. These criteria should find their expression in what is concretely developed as course materials.

As part of the evaluation strategy, measurement instruments should be selected or developed. Are assignments as part of the evaluation considered? What kind of assignments, about which topics, when to be taken up by the learner? What will be their share in the final evaluation of the learners in comparison to final exams? Are tests to be used? Which kind of tests (verbal, practical). In which circumstances?. What will be the format of the final examination?

Test or examination items have not necessarily to be developed at this stage (item banks may grow over time), but at least a sample set of evaluation items and instruments must be provided to those who will be active during Delivery to clear that part of the job.

3.3.6. Adapting materials

The development of course materials will not always start from scratch. If existing materials can be used, costs of development and development time can be reduced. The availability of such materials has, however, to be checked, by using as criteria the elements that were described above.

This check will result in a number of cases in the decision to use only part of the materials, or to adapt the available materials to the specific needs of the targeted learners.

The use of "external" materials confronts developers with the necessity to agree with the original authors about copyrights, licences or/and intellectual property rights. Legislation is not yet homogeneous in various countries, but within the European Union endeavours are clearly being made to come to conclusions on short term.

If these "external" materials are coming from abroad, also cultural issues should be considered. Adaptation of materials is then not restricted to translation, but should "localise" the materials as well. This implies checks on the match of assumed prior knowledge with the actual prior knowledge of the target group and on the use of concepts, terminology, abbreviations, symbols, etc.

Also adaptation of examples and applications to situations where the learner group is familiar with must be taken up, as well as changes to elements of learner ´s support to match these with the local provisions.

Finally, translation should pay attention to the use of expressions and metaphors: their cultural embedding can create misunderstanding if translated all too literally.

3.3.7. Final remarks

- Development of materials is a cyclic process. It is unwise to try to get everything right from the very first draft. It not only confronts the developer with too many demands to handle properly at the same time, but it also blocks that interesting new perspectives arise during the development and be worked out. Therefore it is advised to approach the development as an iterative process, in which members of the course team and/or peers external to the team are consulted to discuss and evaluate intermediate products.

- Teamwork implies a well managed group process. For successful completion of the task a skilled manager is as important as good developers.

- ODL should focus on the learner's perspective.

- Therefore it is often recommended to develop materials that are attractive in layout/interface, and that motivate the learner for their use (e.g. by using a direct, informal style of addressing the learner, using short sentences in writing, structuring the content well, embedding sufficient and well chosen illustrations, etc.).

Therefore it is often recommended to have at least one learner of the target group taking part in the course development activities as observer and reviewer of intermediate results.

- Therefore it is necessary to pilot the final product of the development process with a sample of the target group, to evaluate and validate the result before handing it over for production and delivery.

- The intended result is only to be delivered by team members who are familiar with ODL. Prior to the design and development it might be necessary to engage non familiar team members into a training programme about ODL in general and on the development of materials for ODL specifically. In this case, focus should be directed to the type of ODL and on the constraints (learner ´s characteristics and delivery context) that will be emphasised by the course, to tune them to their task.

4. Production

What does "production" mean?

Production is the material (tangible) outcome of previous Design and Development stage

4.1. Introduction

Production of course materials is a process of manufacturing character. Here the general quality assurance principles recommended for the operation of the institution can be used.

The institution should prepare documented system procedures consistent with the requirements of its QMS. The range and detail of the procedures that form part of the system shall be dependent upon the complexity of the work, the methods used, and the skills and training needed by personnel involved in carrying out the work.

4.2. Plan production

Institutions often purchase things from other suppliers. For qualifying suppliers, institutions should perform an audit to verify that suppliers have the necessary tools in place. Quality standard certificates do not guarantee that a supplier will have competitive pricing, on time delivery, applicable technology or excellent customer service. However, in case of companies or other educational institutions, being ISO certified is automatic qualification.

The institution should prepare clearly documented guidelines on marking standards, the needs of distance learning students, and the tutors ' role what is required of them helps the tutors' quality work.

The institution should take into consideration that students obtain part of the course materials, or certain auxiliary materials individually (e.g. their own PC and other instruments). Here special attention must be paid to compatibility.

4.3. Assemble media and materials

The institutions set their design specification goals. During production process results should be measured against these goals. The process should be reviewed to see how to enhance the learning environment and ensure student academic achievement.

In addition to textbooks, many courses are accompanied by a comprehensive didactic guide, which provides course objectives and key concepts. Students are expected to spend a minimum amount of time per week for study and homework assignments.

4.4. Copy course materials

The provider should define, plan and document the processes which directly affect course material quality.
To provide a basis for confidence in consistent and effective operation the course provider should*:*

- Define the significant process parameters that impact on product or service characteristics
- Design the methods used to control critical processes
- Ensure the availability of appropriate process documentation for use by relevant personnel
- Set up, where appropriate, standards and codes of practice relevant to particular processes.
- Specify the arrangements for measurement, monitoring, verification, recording and controlling to ensure that processes are operating effectively and that the resultant product meets specified requirements.

The course provider should give consideration to*:*

- Potentiality of processes to be operated and maintained
- Personnel training and qualification requirements for process activities
- Facilities, equipment, materials and software necessary to support a process.

The printed materials as evaluation tests, examination tests, course description, printed textbook procedures and work instructions should be controlled from the point of view of simplicity to read and understand.

Course description should include job descriptions and course provider charts of the institution, as detailed as the learners' viewpoint requires.
The quality system requirement concerning students is proficiency in reading (functional literacy), to get or have equipment (computer based) to follow the instructions, and to take care in handling materials.

Abstract concepts have to be defined and described. Self-assessment tasks should be included. Appropriate binding is a common requirement. Transport of all materials should be looked at. Reproduction should be controlled so that copies meet course specifications and quality standards.

The institution's management should define and document how the quality requirements for copying materials will be met.

4.5. Plan course maintenance

The institution should establish and maintain procedures for controlling all documents and data required for the management of processes to ensure that:

- They should be easily located
- They should be periodically reviewed, revised as necessary and approved for adequacy by authorised personnel
- The current versions of relevant documents should be available at all locations where operations essential to the effective functioning of the process be performed
- Obsolete documents should be promptly removed from all points of issue and points of use, or otherwise assured against unintended use.

Students must understand that saving resulting from the possible use of previous course materials is not proportional to the additional difficulties when using course material deriving from the actual version.
Documents and data can be prepared on any kind of information carrier (e.g. on paper or electronic information carrier).

Documents and data before publishing, should be inspected and approved, concerning appropriateness, by authorised persons. A register, or an equivalent document control procedure, must be used to identify the valid modification position, to check that it be easily available, and to avoid the use of invalid and/or outdated documents.

Documentation shall be legible, revision controlled and readily identifiable, maintained in an orderly manner and retained for a specified period. Procedures and responsibilities shall be established, and they should also be maintained in relation to the creation and modification of the various types of documents.

5. Delivery

What does "delivery" mean?

The output of the previous stage (production) is an amount of course materials that is ready for delivery. These materials and other resources are the input of "delivery" stage***;*** in other words**,** course running. The results (output) of "delivery" stage are delivered course and completed course from the learner’s point of view.

5.1. Introduction

This chapter differs from the previous ones in that here the difference between the learner's and the institution's viewpoints is most marked.

Therefore, in contrast to the previous structure (process draft with learner's viewpoint, detailed quality assurance with learner's viewpoint) we also include here a short overview to differentiate between the learner's and the institution's viewpoint in the ODL process.

5.2. Advertising the course

To perform for enrolling potential students, announcement should contain all the opportunities concerning explicit and expected requirements of potential learners. The Marketing Plan of this activity will cover all the persons and organisations that should be informed about the course.

The institution should prepare informative written material about all programs offered. It would be useful to send this material to prospective students. Such material should include information about: target groups, any entry requirements, goals, perspectives, course duration and timing, learning material, teaching and learning activities, scope of the programme, how to reach the instructor or tutor, evaluation procedures and provided help.

Adult learners have a wide variety of reasons for pursuing learning at distance: constraints of time, distance, and finances, the opportunity to take courses or hear outside speakers who would otherwise be unavailable, and the ability to come in contact with other students from different social, cultural, economic, and experiential backgrounds.
As a result, they gain not only new knowledge but also new social skills, including the ability to communicate and collaborate with widely dispersed colleagues and peers whom they may never have seen.

Furthermore, the announcement of the course should provide information relating to: prices and payment, instalment conditions, guarantees, the right to return (or not) course materials, any time limits for completion that exist, term regarding, any interruption or postponement that may occur, and refund guarantees to students (in order to pressurise the institute to fill the learners` requirements).

Information included in the announcement should also include: goals, aims, purposes, accomplishment standards, compartment patterns, appraisal methods, feedback, objective assessment, content, standard length of study time, learning material, teaching and learning activities, evaluation procedures, time constraints, any requirements for previous knowledge, and the formal competence that the programme will lead to.

The information should be truthful and not include promises which you cannot fulfil. Readable brochures should specify: course name, course level, course duration, study timetable, work load, course price, qualifications obtained, starting level, fair and accurate descriptions throughout, details of accrediting bodies, methods of payment, details of contract, and examination dates.

The Course Announcement should contain all elements to comprehensively inform future learners (and the companies who sponsor them) about the content and value of the Course, in aspects such as:

- Course purpose
- Terminal objectives
- Delivery system
- Learning process standards
- Pre-requisites
- Price
- Enrolment details.

5.3. Enrol/register students

It refers to the process of enrolling, contract between the student and the institution If the institution has a continuous enrolment system (the student can start whenever she/he wants), the course materials should be sent within 1-2 days.

The contract should clearly state: the price, the instalment terms available, how to make payments, the type and name of course, the services provided, the copyright owner of the course material, the length of contract, the required guarantees, refund arrangements, cooling off period, cancellation terms, the role of third partner (e.g. employer), the owner of the course material after student has paid course fee, preliminary instructions, study guidance, display of the terms of the contract, and responsibility to negotiate if conflict arises.

The institution has to provide the enrolled student with the course material within an acceptable period of time.

Substantial protection should include: professional control exerted by independent third partner, because the cost/value relation is not known in the beginning of the course.

5.4. Individualise lessons

In order to promote the effective use of the course by any individual participant, institution's activities delivering the course to students should include the provision of components such as:

- *Clear definition of objectives and study requirements for students*
- *Study guide, further reading, orientation, glossary, index, etc.*
- *Realistic objectives attainable, according to enrolled students ´s level*
- *Valid, correct, up to date, and objective related contents*
- *Predominant presentation methods (i.e. inductive, deductive, etc.)*
- *Relevant didactic structure (i.e. modules etc.)*
- *Clear and attractive layout*
- *Exact timing and collaboration plan*
- *Course instruction for quality learning*

When assessing the study material, the recommendations should be evaluated in the context of the target groups, major subjects, integration to other working methods and media, and integration to face–to-face teaching.

5.5. Facilitate learning

Strategies to facilitate learning must include details on: recruitment, training, control of tutors, establishment of communication between tutor and student for tutoring, correct and mark student assignments, and feedback.

The learner should be willing and able to collaborate with the tutors, find enough time to study, have appropriate skill in reading and the use of media, and consider learning objectives as his/her own. In many cases, distance learning does not include direct contact with students; by contrary, it may only involve independent learning. Anyhow, The school should establish a system for receiving, handling, recording and reacting to complaints.

Distance education changes the learning relationship from the common, centralised school model to a more decentralised, flexible model. It also reverses social dynamics by bringing school to students, rather than students to school. This leads to a host of new issues for administrators to debate, including: redefining what it means to have a teacher present in the classroom and revising teacher certification requirements too. Tutors have to see the distance learners from a holistic point of view.

They must have to have developed skills in written communication, appropriate language in relation to students' level and capacity, and ability to encourage studying. The support and guidance helps the student overcome difficulties and complete studies.

Internal and/or external training/course for tutors and regular examination of tutors work should be established including. Training programmes should include: leadership and support for new technology from school administrators, and opportunities for communication, interaction, peer support among teachers, regular tutor meetings to discuss problems, methods of improvement, and of sharing experiences. The activities for the improvement of the teachers ' qualifications are the responsibility of internal experts.

The instructors' capacity to teach should be validated and a qualification process should be established. The philosophy and objectives of the institution should be fully explained and documented by the management team.

The facilitating learning process should not depend on individual instructors. The management follows up regularly the results of tutor evaluations; discusses with tutors how they can improve feedback and other views on improving marking, tutoring services and courses; and keeps continuous personal contact with tutors.

Special skills for quality tutoring are the following ones:

- *Understanding the nature and philosophy of distance education*
- *Identifying learner ´s characteristics at distant sites*
- *Designing and developing interactive courseware to suit each new technology*
- *Adapting teaching strategies to deliver instruction at distance*
- *Organising instructional resources in a format suitable for independent study*
- *Training and practice in the use of telecommunications systems*
- *Becoming involved in organisation, collaborative planning and decision-making*
- *Evaluating student achievement, attitudes, and perceptions at distant sites*

Advice and guidance, in addition to that given by tutors must be offered according to the features such as:.

- Counselling here means advice and guidance given to students in other matters than in direct lesson. Counselling is usually part of the staff 's and tutors' work.

- The counsellor should be effective in problem solving, show empathy with the learner's viewpoint, competent in answering questions, able to help in practical matters, reliable in keeping promises, and discrete when discussing confidential matters.

- A counselling system must be organised, including the availability of counsellors and its awakening to the consciousness, guidance and training system for counsellors. The course provider should establish cost-effective means for students to get counselling.

Classroom teaching including subjects taught must have the following features:

- Face-to-face teaching gives real add-on value for students. Face-to-face teaching should be based on clients' needs and expectations in interaction with them.

- Objectives and integration should be planned by the course team at the course planning stage.

- Objectives should be explicitly formulated, and integration planned and achieved.

Objectives and integration should be discussed and improved regularly, and content and structure should

- be adjusted to the results of discussions, because positive and flexible teaching culture is based on the foundation of continuous improvement of content, methods and the use of technology.

Students should be activated and encouraged to participate. The management team ´s responsibility to provide quality tangibles such as:

- Rest rooms
- Access to phones, fax, post, bank, e-maiI, etc.
- Library services
- Parking places
- Service personnel readily available, etc.

Teleteaching will include:

- Audio teleteaching
- Audiographic teleteaching
- Video teleteaching
- TV programmes
- Computer conferencing.

Teleteaching should be based on the students' preferred learning styles. The general requirements will be:

- Clear statement of objectives
- Sound presentation methods
- Clear structure, sequence and timing of sessions
- Clear and fluent communication; dialogue, interaction, quick feedback, etc.
- Friendly, supportive and rewarding learning culture organisation
- Integration to other media, such as printed word, audio- and video cassettes, fax, etc.

The teaching content should meet the academic/practical study needs. Consequently, teleteaching should be accessible within the students` time; location,

economical and cultural constraints linked with students` own life and work practice.

An excellent telecommunication environment must be provided for students, including school, home and/or work and regional centres. Teleteaching objectives and context should be described beforehand; and sessions should be carefully planned in time (place, timing
length, structure, media, etc.).

The support person or personnel should be informed and trained; the trainer, trained; the students, informed, the study material, prepared and sent beforehand. Background and previous knowledge at the students side as well as time constraints are required this means time enough for learning and practising.

Timing should be carefully followed (rhythm; sequence, periods of time, enough pauses; etc).

Students' satisfaction and dissatisfaction in relation to teleteaching should be recorded and analysed systematically by internal experts, and the management team should regularly follow the feedback.

5.6. Post course servicing

Not only the passing/starting rate of student numbers show the quality of a course. Providing human and technical aid after the course is completed is an essential part of QA.

Student ’s academic achievement is only a partial indicator of the quality of the institution. Moreover, as learning institution resources and processes become time-and-place independent, a majority of students no longer attend a single institution.

This is amplified by technology and distance delivery, of course, because students can access multiple providers simultaneously. So, attributing the "cause" of any particular learning outcome becomes extremely difficult, because most of the results are joint products of multiple systems of instruction and teaching.

The institution should establish an extensive system to follow up students` progress. Students` satisfaction should be measured continually to minimise drop-outs.

6. Evaluation

What does “evaluation” mean?

The outputs of previous stages holds the quality. These materials and other resources are the input of “evaluation”.

6.1. Introduction

Evaluation is the meaning or interpretation of the data from the assessment in an institutional setting: the evaluator**s** may be students, faculty, administrators or accrediting agencies.

The results of an *assessment* process should provide information which can be used to determine whether or not intended outcomes are being achieved and how the ODL material can be improved.

In the assessment process it is important to distinguish between *formative* and *summative* type. Formative assessment is the collection of data and the feedback of the results on an ongoing basis: this type of assessment is designed to provide information for the purpose of improving the ODL material being assessed. Summative assessment is designed to produce information that can be used to make decisions about the effectiveness of the ODL process.

6.2. Preparation of an Evaluation Scheme

The following six stages present an outline for the development of an evaluation **plan.**

Generally, the sequence of the steps is unidirectional. The stages are illustrated with examples on the following pages. The examples follow the progress of a unique objective like “assure that learners can create homepages in the web”.

Stages:

1. *Identify goals and learning objectives*
2. Develop *performance criterion* for each learning objective
3. Determine the *practice* to be used to achieve goals
4. Select and apply *assessment methods* for each learning objective
5. Define correct *feedback* channels to get information useful for assessment
6. *Clarify* the criteria of acceptable performance

6.2.1. Stage 1

Identify goals and learning objectives

Question a) – What is to be achieved?

The first step is to write a statement describing the broad outcome desired. Program evaluation is intended to provide information on how well a ODL material performs relative to its specific objectives and, ultimately, its broad goals. A goal should be far reaching and describe the best situation that could possibly be hoped for.

Question b) – Under what circumstances will you know the goal has been achieved?

The learning objective is a statement derived from the goal that defined the circumstances by which it will be known if the desired change in learning skills has occurred.

These learning objectives should be precise in stating the expected change, how the change should be proved, the expected level of change, and over what time period the change is expected.

6.2.2. Stage 2

Develop performance criteria for each learning objective.

Question – What will students be able to do, or be, or possess when the goal is accomplished?

The performance criterion is a specific statement identifying the outcomes required to meet the objective and must be proved through evidence.
It is important to identify criteria against which results will be measured.

*The **indicators** of performance are not easily apparent**,** so indicators are used to provide evidence of whether or not the desired performance exists.*

6.2.3. Stage 3

Determine the practice to be used to achieve goals

Question – What will be done to achieve the goals and the learning objectives?

It is important to define the practice to be followed in the classroom or by the individual learner prepared to obtain the specific performance for each learning objective.

6.2.4. Stage 4

Select and apply assessment methods for each learning objective.

Question – What are the methods to obtain the information about each learning objective?

The specified assessment methods to collect proof about the quantification of the learning indicators are used and the results are analysed and compared against the performance criteria defined beforehand.

The methods should be consistent with the criteria adopted. These can be enquiries, rating sheets, interviews, focus group protocols, etc., as appropriate.

6.2.5. Stage 5

Define correct channels to get information useful for assessment

Question – How to establish the communication channels to get the information about the ODL materials evaluation?

The implementation of the feedback channels**,** which provide information at appropriate timings to facilitate continuous improvement of practices, provide information for decision making, and offer bases for evaluation of the ODL material.

One of the results of the evaluation is that faculty may determine that it is necessary to provide intervention and/or provide complementary training.

When results indicate that students are performing consistent with established criteria, faculty may extend the current practice to other students and to other courses.

6.2.6. Stage 6

Clarify the criteria of acceptable performance

Question – Have the performance criteria been met and the objectives achieved?

Since evaluation is the process of giving meaning and value to assessment results, it usually occurs during the continuous improvement process (formative evaluation) and at the end of a project (summative evaluation). A decision will need to be made concerning how many of the performance criteria must be met to say that the learning objective has been achieved

6.3. Examples

1. Interactivity

The example is dedicated to measure interaction as a performance criteria of stage. The interaction takes place between instructor and learners, between learners and distant sites available through videoconferencing or other synchronous media.

The questions asked will have to measure the level of interactivity between learners and tutors in a scale of 1 to 5 about the following issues:

a) Possibility for questions
b) Participation of discussions on-line
c) Engagement in learning activities
d) Choice of themes for discussion
e) Off-line discussions

2. *Learners´s evaluation.*

According to stage fourth, the measurement of learner ´s satisfaction with the learning activities of the ODL sessions has to be rated in a similar manner to the face-to-face learning activities. The rating should be done as a measurement on a given numeric scale of the following issues:

a) Active involvement
b) Activities related with workplace tasks
c) Interesting challenge
d) Help to achieve learning objectives
e) Clarity of materials
f) Activities helping job tasks.

EXAMPLE OF SELF-EVALUATION FORM-SHEET:

<table>
<tr><td></td><td colspan="3">Criteria 1: LEADERSHIP

How the behaviour and the actions of the management team and others organisation leaders encourage, support and promote the culture of Quality Management

Definition of criteria:

How the management team inspires and controls the total quality as a fundamental organisational process for continuous improvement

Goals:

To learn to appreciate the implication and the commitment of the FBG management and executive teams.</td></tr>
<tr><td></td><td colspan="3">Subcriteria 1.a.:

How leaders visibly show their commitment with the Quality Management philosophy.</td></tr>
<tr><td></td><td>Areas to approach:

- How leaders form a model, managing by example
- How leaders will became accessible, hearing and answering all the members of the company.
- How leaders improve their leadership.</td><td colspan="2">Strong Points:

Improvement areas:</td></tr>
<tr><td></td><td colspan="3">Evidence:

Observations:</td></tr>
<tr><td></td><td>Score (to be filled in for the external team)

Focus</td><td>Development:</td><td>Overall score:</td></tr>
</table>

EXAMPLE OF TEAM EVALUATION SHEET

Project Title: _____

Name: _____ Date: _____

Directions: For each of the below, circle the number that best represents your evaluation of your team's effectiveness.

1. Effective Use of Time:						
1	2	3	4	5	6	7
Much time spent without purpose		Got off track frequently		Did well once we got our ideas clear	No wasted effort stayed on target	
2. Development of ideas:						
1	2	3	4	5	6	7
Little done to generate ideas		Ideas were imposed on the group by a few		Friendly session but not creative	Ideas were encouraged and fully explored	
3. Ability to Decide Issues:						
1	2	3	4	5	6	7
Poor resolution of difference		Let one person rule		Made compromises to get the job done	Genuine agreement and support	
4. Overall Productivity:						
1	2	3	4	5	6	7
Did not accomplish our goal		Barely accomplished the job		Just did what we had job	Highly productive session	

Team members were: (include your name also)	**Opinion Individual Contributions for this Team Project**
1. 2. 3. 4.	Allocate 100 points to your team members (include yourself). Base the allocation on your opinion of individual performance:
Suggestions and comments to Instructor(s):	**Sum should = 100**

EXAMPLE OF PERSONAL EVALUATION SHEET: WORKING IN GROUPS

Team Project _____

Name _____

Directions: Read each statement below. Circle the number that best represents your experience as a team member.

	Yes, a lot				No, at all
1. I felt comfortable working with this team	4	3	2	1	0
2. I was an active participant in my team	4	3	2	1	0
3. I listened to everyone on my team	4	3	2	1	0
4. I encouraged and praised others on my team	4	3	2	1	0
5. I explained/helped someone who didn't understand	4	3	2	1	0
6. I asked for an explanation or help when I didn't understand	4	3	2	1	0
7. I felt encouraged by people on my team	4	3	2	1	0
8. My role was I felt comfortable with this role	4	3	2	1	0
9. I found this group activity to be a worthwhile experience	4	3	2	1	0
10. I am enjoying working with my classmates on teams	4	3	2	1	0

Comments and suggestions to the instructor:

CHECKLISTS

1. Quality Assurance Systems in ODL

There is no checklist connected to the first part.

2. Analysis

Did the analysis indicate and identify:

- *The type and scope of education*
- *The market segments of the ODL*
- *The volume of learners*
- *The potential students skill levels*
- *The motivational factors of the learners*
- *Support of the learners from their company, family*
- *How much time and money will the learners contribute to the training*
- *The business requirements, expressed in measurable terms?*

Does the Analysis Report include

- *Expected learning outcomes*
- *Most important customer needs*
- *The business aspects*
- *The job skills and knowledge of learners, and the environment*

3. Design, development

Did it become clear during design:

- *What exactly is expected?*
- *How much time is available?*
- *What kind of combination of team members is needed?*
- *What kind of input is expected from them (type of expertise, time constraints, previous experiences in ODL)?*
- *How the team will communicate?*
- *When and how many meetings will be organised?*
- *What possibilities (e.g. technical) are available for the developers?*
- *What kind of equipment is needed?*
- *Are design objectives well defined?*
- *Is a list of factors to be measured, which indicate, whether objectives are reached, prepared for defining objectives?*

Were the following issues taken into consideration during design:

- *Previous knowledge*
- *Previous skills*
- *Cultural background?*

Does the plan include details about the following:

- *Motivate learners*
- *Set previous knowledge and experience of learners in motion*
- *Take their skills and cultural background into consideration*
- *Consider different learning styles*
- *Provide the learner with sufficient feedback to be able to evaluate, whether he is developing in direction of the objectives (self-control)*
- *Content must have direct concern to application (and give meaningful educational tasks and directions)*
- *The course must motivate for active participation*
- *The course must make use of the experiences of the learner (especially the professional ones)*
- *It must make self-control possible for the learner (provide tests for understanding and perfect acquisition)*
- *It must take individual learning style of the learner into consideration*
- Did design define larger blocks of the course?

Were media selected consciously taking the following into consideration:

- *Objectives and nature of the course content*
- *Availability of media, and ability of learners (and teachers) to use special media*
- *Environmental bounds (e.g. mobility of learners, distance from the institution, size of the learning group, etc)*
- *Economical character of development and delivery?*

Were the following resources used for design:

- *Existing materials*
- *Other ODL courses in the same or in a similar topic (written materials, CBT packages, multimedia packages, web-based education, practical packages, atc)*
- *Traditional, not ODL materials (handbooks, textbooks, workbooks, etc)*
- *Literature (articles in professional magazines, books)*
- *Colleagues (in the same professional field)*
- *Other resources (handbooks, publications, newspaper articles, encyclopaedias, encyclopaedic and special CD-ROMs, etc)*

4. Production

Do course materials include the following:

- *Title*
- *Author*
- *Date of publication*
- *Reference number, publisher*
- *Initial requirements*
- *Learning time demand*
- *Table of contents*
- *Users' guide*

Do course descriptions include descriptions of the sphere of activity and organisational diagrams providing so detailed information that is reasonable concerning the learners' viewpoint?

5. Delivery

Does the advertisement include all the necessary information concerning the

- *Target group*
- *Admission requirements*
- *Objectives, content, timetable of the course*
- *Course materials*
- *Method of distance education*
- *Different activities*
- *Availability of teachers*
- *Evaluation*
- *Assistance*

Do the contracts include the

- *Course name*
- *Price*
- *Possibility for time-payment*
- *Procedure of payment*
- *Copyright and proprietary rights of course materials*
- *Necessary pre-qualification*
- *Services provided by the institution*
- *Duration of the contract*
- *Guarantees*
- *Reimbursement agreement*
- *Cancelling deadline*

- *Role of a third person e.g. employer, law court (in case of disagreement)*

Do the conditions exist to deliver course materials for the learners in time, and do they include the following:

- *Course objectives and requirements*
- *Study guide, selected passages, glossary, index*
- *Attainable study aims according to the knowledge of the enrolled students*
- *Exact collaboration plan, schedule*
- *Guide to quality learning*

Is there continuous contact with the tutors?

Are the following conditions met in the course of the delivery:

- *Clear definition of learning objectives*
- *Appropriate manner of lecturing*
- *Clear structure*
- *Reasonable sequence*
- *Appropriate timing*
- *Clear, continuous communication, dialogue*
- *Quick feedback*
- *Creation of a friendly, supportive, rewarding learning environment*
- *Integration with the DE package*

Is there a planned, regular learning-evaluation activity?

6. Evaluation

- *Are the goals identified, what is to be achieved ?*
- *Are the specific objectives identified for each broad goal?*
- *Under what circumstances will you know the goal has been achieved?*
- *Which performance criteria have been developed for each objective?*
- *Are all of the practices to be determined to achieve training goals?*
- *What are the selected assessment methods for each objective?*
- *Have you chosen data collection methods?*
- *Have you used specified methods to collect evidence?*
- *Have you analysed evidence and compared against performance criteria using analysis appropriated to the method chosen?*
- *Did you determine the feedback channels?*

- *Have you evaluated whether the performance criteria were met and the objectives were achieved?*

GLOSSARY

Aim: specification of the general purpose or goal of a plan or project.

Analysis: identifying the need for education or training

Assessment: process of measurement of student's performance

Checklist: tool of self-evaluation, summarise all of the critical elements of education and training

Customer: The individual or institutional body paying for the service or the product provided

Customer oriented education: education that essentially orientates itself to accommodate to its users ´s need, satisfaction and demands.

Consumer market: all the individuals who buy products or use services for consumption.

Distance education: modality of education that impulses education without the need of regular face to face relationship between students and educators.

Goal: fundamental purpose, that should be specified in strategic step by step mediate sub-purposes.

Interactive media: technological media that work partly due to their user ´s active intervention. The are progressively more and more useful to independent learning and for distance education.

ISO: International Organisation for Standardisation, who has designed different standards to accredit quality on different professional activities.

ISO 9001: Quality systems – Model for quality assurance in design, development, production, installation and servicing.

ISO 9002: Quality systems – Model for quality assurance in design, development, production, installation and servicing.

ISO 9003: Quality systems – Model for quality assurance in final inspection and test.

Learning motivation: group of strategies used to create motives or reasons that will promote learner ´s impulse to acquire knowledge.

Learning process: the process of acquiring skills and attitude towards new knowledge

Learning style: particular way of organising the necessary requirements to attain knowledge, which usually is attributed to individuals or groups of people according to their peculiar features.

Market segmentation: division of market are, in order to establish different groups having each one of them several common features.

Module: a separate part of a course or a course material

Objective: operative attainment that, connected with the purpose and sub-purpose of a plan or project, is able to be clearly and evidently measured.

Open learning: peculiarity of regular education that does not ask for any previous formal academic accreditation on participants who register as students. It is usually spread as "Open Distance Learning" (ODL)

Organisational market: organisations or institutions that buy products or use services in a particular way and according to their own approach.

Participants: individuals taking part in a course or training. It is synonymous with "students".

Process: planned and specified events aimed at achieving a specified purpose

Product: result of the delivery of a process (e.g. learning process)

Quality: Complex term that essentially refers to the individual or institutional accommodation to its own peculiarity and mission: according to new trends, this not only asks for internal coherence, but also internal and external appreciation in terms of satisfaction.

Quality Assurance: a proven, documented systematic approach to the planning and management of activities to produce output which conforms to the customers' requirements.

Quality Audit: The act or process of investigating and examining an institution to determine whether its quality management and procedures, and its products, meet the requirements of the quality specification claimed.

Quality Guide: a manual defining procedures and practices of the maintenance of a quality system

Quality improvement: a continuous process for the development of quality at all levels in an organisation by all of its employees

Quality model: structured range of requirements for quality, which have been organised in a particular way by a relevant institution or by scientific individual or collective authority.

Quality System: established, documented and maintained system as a means of ensuring that product/service conforms to the customers' requirements.

Self assessment: the assessment of an institution, a group or an individual by itself by selected criteria.

Service: the process of providing or supplying goods or facilitates from an institution to its customers, or within an institution from one department to another.

Standardised quality assurance: accreditation of quality that has been conceded by a public or private institution when a candidate accommodates itself to the requirements and standards previously set up by the accrediting institution.

Student: an individual undergoing training

Tele-teaching: term usually given to the use of different technological media to promote interrelationship between students and educators and among participants with mates and other individuals or groups.

Tutor: the individual responsible for supervising, training, accompanying a student during the training.

TQM: a proven, systematic approach to the planning and management of activities to produce output which conforms to the customers' requirements.

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ACKNOWLEDGEMENTS

This manual has been prepared with the assistance of the Commission of the European Communities within the framework of the SOCRATES ODL Programme.

The following experts gave their time and expertise in contributing to its realisation, for which the project co-ordinator, *SZÁMALK Training and Consulting Centre* would like to express its thanks:

Prof. Dr. Alfredo Soeiro (University of Porto, Portugal)
Dr. Brian Perry (University of Hertfordshire, UK)
Steve Bennett (University of Hertfordshire, UK)
Jef Van den Branden (LINOV-Katholike Universitat Leuven, Belgium)
Prof. Dr. José Collado Medina (Universidad Nacional de Educacion a Distancia, Spain)
Prof. Juan Manuel Moreno Olmedilla (Universidad Nacional de Educacion a Distancia, Spain)
Prof. Samuel Gento Palacios (Universidad Nacional de Educacion a Distancia, Spain)
Dr. László Komáromi (SZÁMALK Training and Consulting Centre, Hungary)
Dr. András Bardócz-Tódor (Centre for Educational Services, Hungary)

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September, 1999

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