Conceptual model for ODL Quality process and evaluation grid, criteria and indicators

WP2 – D2.2

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Version reviewed and validated by all partners
# TABLE OF CONTENTS

1. **SCOPE OF THE DOCUMENT** ........................................................................................................ 4

2. **SUMMARY** ................................................................................................................................... 4

3. **INTRODUCTION** ............................................................................................................................ 5

   3.1 ABOUT THIS DOCUMENT ........................................................................................................... 5
   3.1.1 Prior definitions: towards a fuller understanding ................................................................. 5
   3.1.2 Location of this report within the project ............................................................................... 5
   3.1.3 The needs it tries to meet ..................................................................................................... 5

   3.2 AIM OF THE DOCUMENT ......................................................................................................... 6
   3.2.1 Characteristic: general use for the whole European Area. What is a “Conceptual Model”? 6
   3.2.2 Developing .......................................................................................................................... 6
   3.2.3 Offering a particular model .................................................................................................. 6

   3.3 THE “E-QUALITY” APPROACH ............................................................................................. 7
   3.3.1 State of the art ..................................................................................................................... 7
   3.3.2 General Information ............................................................................................................ 9

4. **CONCEPTUAL MODEL: THE STUDENT’S LIFE CYCLE** ...................................................... 14

   4.1 RATIONALE .................................................................................................................................. 14

   4.2 THE STUDENT LIFE CYCLE MAP AND DESCRIPTION .......................................................... 15

   4.3 KEY IDENTIFIED PROCESS OBJECTIVES AND LINKS WITHIN THE GLOBAL MODEL .... 18

   4.3.1 Management and policies ...................................................................................................... 18
   4.3.2 Material design ..................................................................................................................... 18
   4.3.3 Material development ........................................................................................................... 18
   4.3.4 Student support .................................................................................................................... 19
   4.3.5 Additional services ............................................................................................................... 19
   4.3.6 Technology .......................................................................................................................... 19
   4.3.7 Library ................................................................................................................................... 20
   4.3.8 Induction ............................................................................................................................... 20
   4.3.9 Financial and infrastructure elements ................................................................................. 20
   4.3.10 Marketing ............................................................................................................................ 20
   4.3.11 Human resources development ......................................................................................... 20

4.4 JUSTIFICATION OF CHOICE: STUDENT SUPPORT AND
LEARNING MATERIAL DESIGN AND PRODUCTION ......................................................................... 21

4.5 DEFINITION OF THE ELEMENTS USED .................................................................................. 21

5. **SUB-PROCESS #1: STUDENT SUPPORT** .................................................................................. 23

   5.1 INTRODUCTION .......................................................................................................................... 23

   5.2 STUDENT SUPPORT CHART .................................................................................................... 24

   5.3 SELF-ASSESSMENT GRID (SET OF CRITERIA AND INDICATORS) ....................................... 29

6. **SUB-PROCESS #2: LEARNING MATERIAL DESIGN** .............................................................. 32

   6.1 INTRODUCTION .......................................................................................................................... 32

   6.2 DIFFERENT TYPOLOGIES BY VOLUME OF ONLINE TRAINING OFFER ................................ 32

   6.3 MATERIAL DESIGN CHART ....................................................................................................... 33

   6.4 SELF-ASSESSMENT GRID FOR GROUP NUMBER 1 ODL HIGHER INSTITUTIONS (1) ............. 38

   6.5 SELF-ASSESSMENT GRID FOR GROUP NUMBER 2 ODL HIGHER INSTITUTIONS (2) ............ 41

   6.6 SELF-ASSESSMENT GRID FOR GROUP NUMBER 3 ODL HIGHER INSTITUTIONS (3) .......... 42

   6.7 SELF-ASSESSMENT GRID FOR GROUP NUMBER 4 ODL HIGHER INSTITUTIONS (4) .......... 43

   6.8 SELF-ASSESSMENT GRID FOR GROUP NUMBER 5 ODL HIGHER INSTITUTIONS (5) .......... 44
7. CONCLUSIONS .................................................................................................................. 45

7.1 SUMMARY OF THE MAIN POINTS DESCRIBED ABOVE ............................................. 45
7.2 DIFFICULTIES IN HIGHLIGHTING THE QUALITY APPROACH .................................... 45
7.3 POSSIBLE FURTHER ACTIONS TO IMPROVE QUALITY ............................................. 45

8. GLOSSARY OF TERMS ...................................................................................................... 46

ANNEX A. UOC STUDENT LIFE CYCLE MODEL ................................................................. 53

ANNEX B. UNIVERSITY OF TAMPERE LIFE CYCLE MODEL ............................................. 55

ANNEX C. TUNIV STUDENT KNOWLEDGE LIFE CYCLE MODEL .................................. 59

ANNEX D. BIBLIOGRAPHY AND WEBGRAPHY ............................................................... 66
1. **Scope of the document**

This document is part of the WP2 and tries to provide and explain a model of the student life cycle. It is to be used freely by the members of the project in further WP in the project. It provides an open opportunity to elaborate further scientific papers.

2. **Summary**

In recent years, quality has become a very relevant aspect of organizational life. It needs to be directly linked to strategic planning and improvement and can apply to any product, process, service, person, etc. In this sense it affects even the organizational culture. Absolutely everything is associated with quality, and ODL Higher Institutions (ODL HI) are no exception.

This document is about the elaboration of a Quality Model for ODL HI, a model that defines the user, obviously the student, as the main element because of his/her role as “client”. In addition, two sub-processes - student support and learning material design and production,- are dealt with in detail. This provides a self-assessment tool based on a set of criteria and indicators, which can be used by any ODL HI, to take stock of their state of development in these two important sub-processes.
3. Introduction

3.1 About this document

3.1.1 Prior definitions: towards a fuller understanding

The title of the document, “A Conceptual Model” implies the need to think in terms of concepts. This part of the document provides an opportunity to check some of the most common concepts in this area of knowledge. It is also useful to review these if necessary at any stage.

The primary purpose of this model is to describe a system; “The Student Life Cycle”, with the accompanying task of clarifying what we actually mean by this:¹

- Firstly between the partnerships, enhancing a dual loop between definitions and agreements on meanings as an open constructive act, implying an open list of definitions.
- And secondly for any stakeholder who may be involved in the project. (See point 6 of this document; Glossary).

3.1.2 Location of this report within the project

Different objectives and activities were linked to the WP2 of the e-Quality Project, some of which preceded this report. Hence the first two objectives were to make a comparative analysis of quality and evaluation issues in different cultural and educational contexts and to determine the impact of these on implementing the quality process in ODL services. To do so, different aspects were considered, such as a general description of the perception and representation of quality issues and evaluation issues in the partner countries at the Higher Education level. This was followed by a description of the implementation of the quality process in ODL in the different partner organisations within different educational systems; and lastly, by the identification of blocking factors in quality implementation. All these aspects were covered in 2.1; Quality Issues in each Partner Country. This was the background work required to tackle the development of the e-Quality Model for quality in ODL HI. In addition, the 2.2 report will lead to the development of WP3, the design and production of core documents and resources, or in other words, the development of a data base for best practices, the General Quality Process Charter and guidelines for its implementation as well as the e-LUP (E-learning Unified Process) that it will be a multi-entry interactive software.

3.1.3 The needs it tries to meet

The current scenario for ODL higher institutions has several factors in common,

- Costs have been rising due the increasing number of people enrolling as students.
- There are economic restrictions that imply better efficiency.
- Universities are called on by society to enhance social development.
- Internationalised training demands, with contrasting quality levels, has created a global competitive scenario.
- The idea that each “client” has the right to be informed about the quality issues of the institutions he or she is studying in, is commonly accepted.
- Universities as a public service must prove the quality of their actions and management.
- The functions and activities undertaken in higher education institutions are susceptible to control processes to enhance efficacy and efficiency.

¹ ISTNCLASS.COM. http://www.1stnclass.com
UNIVERSITY OF PHOENIX GLOSSARY. http://www.uofphoenix.collegedegreeguide.com/articles/gloss.htm
E-LEARNING FRAME. http://learnframe.com/home2.asp
OXFORD DICTIONARY.
All these factors point to the idea that quality should receive the appropriate treatment. The mission of the present document is to work toward this goal. Two main needs can be underlined in relation to this model. On one hand, e-learning is not fully widespread, many higher education institutions have not yet started, or have just started implementing it. For these institutions, guidance is essential. They are going to need clear references about what to do and how to do it. On the other hand, some institutions are already involved in e-learning; for these the need focuses on improvement. They have to implement adjustments and improvements, like any other company competing for success.

Overall, the ability to respond to these demands will determine the chances of success of each ODL HI.

3.2 Aim of the document

3.2.1 Characteristic: general use for the whole European Area. What is a “Conceptual Model”? 

The model is designed for use by any ODL HI. The partnership idea is to provide a global approach. However, as this is a very demanding objective, in some scenarios the approach will be partial - but always fruitful - as it refers to a universal standard that is a common factor in all the organizations concerned: “The Student Life Cycle”.

The terms *conceptual* and *model* are taken from the simplified glossary;
- conceptual: an idea or principle that is connected with something;
- model: a simple description of a system, used to explain how something works or a calculation that might be made.

The result could be a combined definition: a group of interconnected ideas and principles that create a system and explain how this system works. And this is exactly the objective of this document: to explain what the elements are and how they are linked; building up a model.

3.2.2 Developing

The ideal scenario would take account of institutions with their specific quality standards, based on their concrete needs and responding to establish goals. Getting output that was acceptable to the whole partnership was no easy task because of their natural differences. Moreover this output is intended to be helpful for other institutions. This is the commitment i.e. to offer a tool for ODL HI to develop their own quality model, from a synthesis of the different partners’ approach. To sum up, the aims are to:

- Establish a debate about quality and ODL.
- Reach a consensus on the definition of the elements involved.
- Guide ODL HI in the implementation of quality actions.
- Allow self-assessment in quality terms of the ODL HI.
- Link evaluation to improvement.

3.2.3 Offering a particular model

In the first part of the document a holistic approach will be used. However the second part will focus on two specific dimensions; student support and learning material design and production, modelling these two important, relevant and common sub-processes in depth. A self-assessment grid will be proposed to improve these quality dimensions in online higher education institutions.

From a methodological point of view, ODL HI has chosen the student as the centre of the system. This seems to be the most appropriate point of departure, and the most relevant in terms of quality.
This model is centred on a clear main actor: the student,

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The e-Quality Model integrates the previous experience of the partnership; in this sense some of the different organisations involved in the project have contributed with their own Life Cycle Model, available in the next point of this document. For future steps, the partnership has agreed on a common model, taking into consideration these previous models in terms of information, elements and approaches. Again, the idea is to develop a product that could be used by any ODL HI.

### 3.3 The “e-Quality” approach

#### 3.3.1 State of the art

It is noteworthy that to set up a model that includes the whole universe of the ODL HI, three different views must be included: institutions, teachers and students. The quality treatment would have different aims depending on the selected object. Secondly, each expects different standards. For instance from an institutional perspective there are different foci, such as: Governance and regulation, Curriculum design, Learning experience, Medium of delivery, Student support, Content of programmes, Financial viability, Qualification, Administrative support, Organizational process.

These standards, when looked at in greater detail could be subdivided into other aspects, for example roles, activities, artefacts or even others (e.g. Governance and regulation is a standard requiring the role of the decision maker and the educational laws as instrument, etc.). Thus, quality could apply to one or more elements related to

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\(^2\) HARVEY, LEE. “The Power of Accreditation: views of academics”.
http://www.enqa.net/texts/workshop_material/UK.pdf
specific and concrete scenarios, where cooperation and interaction is required between the elements of the different levels.

Seen from the educator’s point of view, the picture is quite different<sup>2</sup>; Institutional Commitment, Technology, Student Services, Instructional Design and Course Development, Instruction and Instructors, Delivery, Finances, Regulatory and Legal Compliance, Evaluation.

However, educators are not of course the only roles concerned, there are others, such as tutors, programmers, headmasters, etc., with their own specific standards.

This model has a student centered perspective, as is argued in the forthcoming points of this document, and this is an organic element of the project, completely interconnected with the other elements making up a system.

Overall, this model should be linked to further actions in the quality field to promote more qualified learning, improve academic achievements, provide better knowledge and understanding, better development of skills (including professional skills), a high level of satisfaction, etc.

3.3.1.1 A QUICK OVERVIEW OF THE LITERATURE AND BASIC STATEMENTS

Turning to the literature, some of the most known trends in the search for quality in education are (Miguel Alonso Ponga<sup>4</sup>):

- School-Based Management
- Effective Schools
- Outcome-Based Education
- Total Quality Management
- The OCDE Quality Concept
- CERI research

Any one institution may include one or more trends. In this sense the e-Quality Project takes into account all the different approaches and backgrounds in setting up the Conceptual Model.

The model developed in the project has a global perspective. It is focused on a standard and it is intended to be applied and consulted by any ODL HI. Furthermore, in defining a global model for ODL higher institutions in point two of this document, the process involved is described. In points three and four the report examines two concrete sub-processes, detailing and working with student support and learning material design and production as partial dimensions of the global model.<sup>5</sup>

On the other hand, and considering the contributions of Belanger and Jordan (2000:187), the proposed model is diagnostic, or in other words, it aims to help to take stock of the state of development of the different elements related to quality in ODL HI. This, in fact, is the aim of the training action planned within the frame of the project. The model will be used to indicate the state of the art and thus to design training action (WP4).

3.3.1.2 EXCELLENCE ACHIEVEMENTS VS. THE REAL STATE OF DEVELOPMENT: CREATING A BRIDGE

Quality must be understood as continuous workflows oriented to taking decisions to improve the situation. ODL HI have been developing quality on different levels. In this scenario, two main objectives are to be reached, one is economic, adopted by organisations that treat e-learning as a new business area, and consider the quality aspects as a secondary issue. Other institutions pursue a different goal. They do not overlook the necessary financial aspect, but they link some of the cost that quality may entail, to ROI techniques. The conclusion should be that quality is the best economic policy in a competitive scenario.

<sup>2</sup> FRYDENBERG, JIA. “Quality Standards in eLearning: A Matrix of Analysis.”. http://www.irrodl.org/content/v3.2/frydenberg.html


<sup>5</sup> RUBIO, MARIA JOSE. “Focus and models of evaluation of the e-learning”. http://www.uv.es/RELIEVE/v9n2/RELIEVEv9n2_1.htm
The e-Quality mission is to detect these good practices, obtained from capable people working in this area, and include them in this model, to enable ODL HI to evolve, take stock of their state of progress and apply further actions to improve.

### 3.3.2 General Information

Quality can be considered both internally and externally. External evaluation has certain advantages such as guaranteeing objectivity, reaching a high level of performance, comparing the data obtained with the internal perception, etc. In our case, considering the existing expertise, the internal choice within the framework of the project, would enable us to manage this task, modifying the methodology if necessary. The internal treatment of quality is common practice throughout the partnership, and the need for improvement is widely accepted. Thus all the institutions have the quality managers to ensure this ongoing process.

#### 3.3.2.1 PRIOR EXPERIENCE ON QUALITY RELATED ISSUES

Turning to the Student Life Cycle issue, some partners have elaborated their own model, with different approaches that then became the starting point of the e-Quality Model.

The basis for working out this conceptual model was the ISO, the EFQM and the provided models of TUNIV, University of Tampere and UOC. All these developments dealt with the same subject, obviously each with its own characteristics, thus implying some differences but also some shared aspects. Some of the more relevant aspects are treated and highlighted in the following paragraphs.

Before going into the institution’s models, the ISO contribution warrants some special comments. After careful study, it was agreed that would be fruitful for some parts of the conceptual model, especially to control or measure final products (e.g. to detect student needs). However as it tends to be based on procedures, whereas the student perspective demands a more dynamic approach, the ISO influences were restricted to the mentioned area.

The key element of the Student’s Life Cycle at the University of Tampere are Units, or studies organized into units, each unit including several types of work in learning events such as lectures and other guided instruction, exercises or other independent work, set-book examinations, seminars and so on. The student completes the unit and if successful, moves on to another one (it is also possible to complete more than one unit at the same time). This approach considers three main processes, related to teaching strategies and techniques, communication and support and finally learning material and resources. It also includes support processes like computer, technological or administrative systems interlinked with learning.

The TUNIV Model is called the “Student’s knowledge acquiring process” and focuses on a multi-level learning process structure. Level 1, the expert’s level, is dedicated to analysing and innovating support actions within the learning process (this is called the Domain Model). Level 2 is oriented to learning process planning strategy. Level 3 refers to the didactic materials and formulated content available on line. Level 4 deals with the student contingent’s adaptation to operation-preparation. And lastly, level 5 consists of the implementation and application of teaching and learning actions.

The Tuniv Model also considers final quality as the control and measurement of additional indicators that also affect the learning process such as financial, administrative, technical or other aspects.

The aim of the UOC model is to create a process map, following the EFQM model, implying clear influences in the final model obtained; EFQM treats the process and sub processes, as well as tasks, actors, indicators, best practices. Thus it complies more closely with the e-Quality Project constitutive elements. Besides that, the EFQM is oriented to clients, in our case students, and this characteristic fits with the convenient and shared idea of putting learning needs on a timeline.

Another important remark is that the model is not universal and depends on each context, set of needs, objectives, type of institution, so that each partner can build a different model based on EFQM principles.

The initial model offered by UOC also considers student support and accompaniment measures, treating dimensions such as technical, administrative or other issues.
Now that the backgrounds and influences had been introduced, it is time to consider some other points that influenced the elaboration of the definitive conceptual model. For instance the aforementioned Domain Model (part of the model provided by TUNIV) whose first step implies an analysis of the learning process, can not be applied in the Spanish and French scenarios where the contents at the first level are decided by the state administrations and are compulsory for any ODL HI. In other words the Domain Model can not be applied to all the studied scenarios and consequently should not appear in the final output.

In this process of reaching a final model agreed on by the whole partnership, one important advance was the decision to reduce the Polish partner model from 5 levels to 3, in line with the contributions and requirements the other countries’ models. The three levels were: content decision, instructional design and course development.

Some of the difficulties arising from the different philosophies applied have been shown. Nevertheless some important coincidences became the starting point for the requested conceptual model; these shared notions have had a clear influence. In trying to underline some of these, a consensus was reached that the model would have to represent several stages in student life, or, in the words of the Polish partner; “the student is in a multi-stage process of knowledge extraction”. Furthermore the previous models had considered a student timeline in different ways to cater to their needs at any time.

Another important coincidence was the perception that the student is linked not only with teaching and learning but to a wide range of services referred to as administrative, technical or management issues.

And lastly it was agreed that the final model could include elements such as actors, environment analysis, learning process planning, didactic material development, student characteristic definitions, preparation of learning workplace, adaptive setting of the learning goals, etc., to take into account the direct elements to enhance quality from a student perspective.
UOC Student Life Cycle Model,

See annex A.
University of Tampere Student Life Cycle Model

See annex B
REPORT 2.1 Quality Issues in each Partner Country gives a comparative idea of the quality situation to date. No model can be constructed without a clear picture of the environment this model will refer to. In fact, the D2.2 report has a concrete starting point: report 2.1.

In this document three main objects can be pointed out, i.e. the Life Cycle Model, Student Support and Learning Material design and production, and finally, the self-assessment grids. All these products were examined through a collaborative work methodology.

With regard to the Life Cycle Model, different partner models (see the previous point of the present document and annexes A, B and C) and approaches were considered in order to produce a common one, the e-Quality Model. The methodology followed basically consists in compiling the lifecycle models currently used in each of the partner universities, discussing each model and building a final model integrating the contributions and featuring the essential elements in any e-learning or ODL initiative.

Moving on to the sub-processes, four specific pillars i.e. roles, activities, artefacts and additional elements, were interconnected by a chart and a relational database. The partnership built up this chart, to obtain the result.

On the basis of this model, for each role and instrument described in it, a set of criteria and indicators was developed, creating a tool to be used as a self-assessment grid for each of the two treated sub processes: Student Support and Learning Material design and production.

To conclude, the model and self-assessment grid will be very useful tools for the other Work Packages and Project development.
4. Conceptual Model: The Student’s Life Cycle

4.1 Rationale

As was said earlier, the life cycle model is intended to be closer to student reality and needs. However in an e-learning environment, the student’s perspective may be determined by the set of educational objectives. To start with, quality analysis focusing on the lifecycle of the student implies that processes, indicators, criteria, services… will not only comply with organizational or teaching criteria but also and especially with the learner’s perspective. Education is seen as a learning process and as a “service” to the student. Our approach is located in a scientific community, but students are an important part of this, with a participant role in Higher Institution administration.

The first requirement of this quality approach is to consider and describe the various stages that students go through in their lives at a university. Each stage is a set of situations in which learners have precise objectives, needs, information… the institutions are expected to guarantee satisfaction by taking their know-how as the starting point at each stage.

In this context, there are several variables to take into account. Firstly, the institution’s services are conditioned by their own standards, laws, economic feasibilities, tradition, etc. Another set of elements that have an influence is their own management of areas such as curriculum development, student enrolment, financial decisions, and so on. Furthermore, other processes outside the organisation also have an effect (e.g. the Bologna Process, national education laws, etc).

Essentially, quality must take account of all these elements to articulate the structures, services and products to attain the highest teaching and learning level. In other words, the best way of meeting the student’s ultimate need, which is to acquire the knowledge, skills and attitudes for professional and personal development. As such, the lifecycle shows all the stages at which students can be located at any time in their learning experience. To maximize success at each stage, the institution organizes its action into specific processes, to guarantee that each student’s needs are met at every stage. In the ‘lifecycle map’ the processes and the relationship between these and in relation to the student stages, are also indicated.
4.2 The Student Life Cycle Map and description

The graph includes several elements:

- The stages at which students can be located during their stay at the university (represented by the walking figure)
- The Processes (shown in boxes)
- The red arrows indicate the lifecycle
- The black arrows show the relationship among the processes

Furthermore, the graph is divided into several sections:

State level: Shows the conditions, which exert a direct influence on institutions and how they organize learning processes.
This is not the core of the model. However government administrations legislate a set of laws, conditions, recommendations, etc. referring to quality, contents, organization, evaluation, training of trainees, trainers’ capabilities, credit conditions, approval of studies etc., to be considered by ODL HI. Furthermore whether or not these rules are followed depends on whether the organization is private, public or concerted, with or without approved studies etc.
This level appears at the top of the model because the decision making within these state conditions will directly determine the kind of organization built up.

Organizational level: This refers to the actions that institutions carry out to organize training, services, internal structure, processes…

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6 Remark: here “course development” means “course delivery” and not “production of course material”.

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Aside from state level conditions and now focusing on the organizational level, a second set of reinforcement or blocking factors emerges, such as the ideology of the institution, the economic possibilities, human capital, contextual conditions, forms of organization and many others that accompany quality matters. In this way, all the sub-processes detected are allocated to this level, because it is the organization that is responsible for quality, in other words the organization decides how to deal with these sub-processes and is responsible for these decisions.

**Student perspective:** Two main macroindicators exist when matching student and quality: satisfaction and learning. Any performance in quality terms should mean an improvement of these two dimensions. In this document two sub-processes are developed by providing a set of criteria and indicators to assess quality. Thus the next logical step would be to develop the same thing for the remaining organizational sub-processes as a reference of the state of development and a driving force for further improvements.

Within the organizational level, three ‘sublevels’ have been defined, which pool together several types of process:

- **Knowledge level:** processes directly involved in the learning process (contents, methodologies, material design…)
- **Non-knowledge level:** aspects not directly related to the learning process such as administrative or technological aspects…
- **Internal indirect processes:** processes that the institution undertakes to guarantee the success of the other processes.
Described below are the six main stages involved in the student lifecycle:

<table>
<thead>
<tr>
<th>Stage with training needs and interest in the offer of the university</th>
<th>Description</th>
<th>Student needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student with training needs and interest in the offer of the university</td>
<td>At this point, the student discovers that a university is offering a course or degree, which may meet his/her needs. …</td>
<td>Between this stage and the subsequent step in which the student will join the university, there is a need to satisfy the information requests from the student, to inform him/her about the features of the courses, how to register, the necessary technology equipment, the characteristics of ODL methodology…</td>
</tr>
<tr>
<td>Student joins the university</td>
<td>Once the student is registered, some other needs arise: At this point, it is very important that the institution offer students appropriate ways to meet these needs. The process of ‘joining’ is intended to organize and control the performance of these aspects.</td>
<td>- Need to inform and train the students on the use of the technology (especially virtual learning environments) - Need to familiarize learners with the methodology - Need to provide students with schedules, programs… - Need to receive administrative support</td>
</tr>
<tr>
<td>Student is ready to start any course</td>
<td>At this moment the student has all the information and skills to start any subject or course. During this and the following two stages the student may also need technological support, administrative support or other services such as virtual or physical libraries, forum on various contents…</td>
<td>- Need to obtain resources from the library - Need for technical support - Need for administrative support</td>
</tr>
<tr>
<td>Student starts a course or subject</td>
<td>Start of the learning process</td>
<td>- Need to receive learning materials and other resources - Need to receive tutoring support - Need to receive technical support - Need to receive administrative support - Need to obtain resources from the library</td>
</tr>
<tr>
<td>Student finishes a course or subject</td>
<td>End of the learning process</td>
<td>- Need to obtain resources from the library - Need for technical support - Need for administrative support</td>
</tr>
<tr>
<td>Student leaves the university</td>
<td>End of the relationship between the student and the university. The student may or may not have obtained a diploma.</td>
<td>- Need to receive some kind of diploma or certification</td>
</tr>
</tbody>
</table>
4.3 Key identified process objectives and links within the global model

The final objectives of the model are the following:

- To provide a picture to explain the object (Student Life Cycle)
- To develop a first introduction to quality for those ODL HI that want to start considering it or wish to improve their present performances.
- To enable the accumulation of knowledge by the ODL HI, helping to anticipate the time and cost implications within these processes
- To show the existing elements and processes in quality terms and their interrelation
- Overall, to facilitate the ODL HI’s own knowledge and state of development, as the starting point for future improvement actions

4.3.1 Management and policies

- To facilitate leadership, planning and decision making at strategic level
- To improve the distribution of resources
- To help to establish policies, like, for instance the selection of programs for a given year

This is a very important process in the model. Because it is visible, it has a clear relationship with the other processes. The management and policies process is influenced by the state level, which calls for competences and demands feedback based on this request.

Overall this process defines, controls, assesses and modifies the other organizational performances and processes.

4.3.2 Material design

- To configure a program, course or any learning object adapted to the potential target of the training actions as well as to each specific class-group to be trained year by year. The point of departure is state policies, models, minimum curricula, guidelines and so on.
- To develop the two levels of program adaptation and instructional design. The first level of adaptation represents the objectives, contents and even methodologies and learning activities to be integrated in the learning materials (design, edition and production of learning materials).
  The second level implies that the subject or course is adapted by taking into account the characteristics of a certain group. As such, the transfer and order of application is positioned on a timeline.

The material design process is conditioned by the “management and policies” process. Furthermore, the needs in relation to the other 8 processes are established and supervised by this main management process.

The material design process leads on to another process i.e. that of material development. The link between design and development is very clear and requires no further clarification. However it is very important to note that this process includes elements such us schedule, calendars, evaluation, virtual learning environments, ways of dealing with diversity, teaching model, etc.

4.3.3 Material development

- To coordinate tutors and other roles involved
- To indicate which resources are required from the library
- To define evaluation
- To develop the management aspects (there are several management aspects of considerable importance, for example to guarantee that students have access to training resources, or have been assigned the appropriate tutor, that all the participants have received the learning materials…)

The implementation of the course also needs to be organized and controlled through a specific process.
As has already been said, this process is actually conditioned by the material design as well as by management, and, in keeping with the model, it has a direct relationship with the student.
Course development makes it possible to obtain assessment data to be used as feedback for the improvement of later editions. This feedback is channelled to material design and to the management processes.
This process occurs in the most important part of the student life cycle between the stages “student starts a course or subset” and “student finishes a course or subject”. And last but not least, it has a direct and specific link with the student support process. The events and decisions that take place in these processes are interconnected in an ODL environment, and are strongly perceived by the online student.

4.3.4 Student support
- To dispel doubts
- To personalize the learning process
- To develop efficient tutoring support
- To offer administrative support: involves various situations such as certification, student payments, and customer service…
- To offer technical support: aspects that guarantee that all the students can work appropriately with the e-learning applications

Student support is a very important process in ODL, and it is essential to be aware of the student’s situation and needs at any time. This is why in the provided model this process has a direct relationship with the institution’s management and policy matters. Student support is developed throughout student life cycle, nevertheless it is very important at the beginning stages, with the induction process. Solving problems, difficulties, or being aware of special needs, controlling the correct use of the technologies and tools, etc, all need to be done at the very beginning to optimize the general teaching and learning macroprocess.
The student support process applies to all the student life cycle stages; from the first, “student with training needs and interest in the offer” to the last, “student leaves the university”.

4.3.5 Additional services
- To look for job opportunities
- To offer informal face-to-face meetings
- To develop special advantages
- To create general forums
- In general to create any other service available to student, which may support the learning process

University is supposed to provide students with comprehensive development. Other kinds of service exist that may be connected with the learning aims, but are outside training action, a clear example being the creation of seminars of a specific or associated knowledge area. Other services are not directly related to training actions, but develop or reinforce a sense of community and are thus strategic motivational aspects.

4.3.6 Technology
- To design virtual learning environments
- To maintain and administer VLE
- To design and implement any other e-learning tool
- To collaborate in the creation of learning materials
- To set up a system for student enrolment
- To introduce marks
- In general any task referring to technology that could support the learning process

The technology process is obviously widespread in ODL performance, in fact it is a key element in developing these educational formats. Each ODL HI determines how they are to use technology because of the existing link with the management and policies process. It is essential to underline the relevant link existing between technology and training methods in these virtual learning environments, as these two elements need real coordination.
4.3.7 Library
- To create a library system to respond to student demands with quality in relation to seeking and obtaining resources
- To make it possible for students to access as many educational resources as possible in order to guarantee their development

The library is a common service in higher education because of the wide range of learning needs, and to provide as many development possibilities as possible. This service is used directly by the students, and again, is influenced by the management and policies process. However it has relevant connections with two other processes: material design and technology. The relationship with material design stems from the need to make the educational resources available. Three main options exist: they can be allocated as part of the materials supplied, in the virtual learning environment or in the library. On the other hand, ODL HI has virtual libraries where technology is a key factor when building up and maintaining this service.

4.3.8 Induction
- To guarantee the correct adaptation of students to the distance learning system of the institution
- To offer a warm welcome
- To teach how to use the existing tools and work dynamics

The induction process is obviously placed at the first stages of the student life cycle. And it is very important for students who have not used ODL before and need to develop certain skills in relation to the required tools, performances, dynamics, etc. This means that the link with the student support process is highly important, as is the management and policies process.

4.3.9 Financial and infrastructure elements
This process is related to the offer and maintenance of the different products and services taking into account the necessary economic dimension.
Indirect internal organizational processes are slightly further removed from the student role, but they do influence quality achievements and student perception. One of these processes is the financial and infrastructure aspect. For instance this process has a clear effect on the price of a course. Another important consequence could be the existing funds to develop course material. All these questions are, of course, coordinated by management.

4.3.10 Marketing
- To develop actions to enhance the commercial dimension of the offered product and services
- To detect training niches
- To adapt the offer to student characteristics and needs

The marketing process is very important for ODL HI, in the sense that it raises awareness of the real possibilities that exist in training action in a concrete context, used as the starting point of a course design. Marketing performances can also help in course design decision-making, via the student profile characteristics obtained. Lastly, marketing is linked with the student life cycle stage of the “student with training needs and interest in the offer”.

4.3.11 Human resources development
- To establish processes to improve and reinforce human capital.

Human resources development has two strategic dimensions to be considered in this context. On one hand technologies are continually changing; this is an ongoing dynamic, and these institutions must be prepared for all possibilities. On the other hand the capabilities of ODL HI staff could be perceived by students as a quality factor clearly connected to the final learning level obtained.
4.4 Justification of choice: student support and learning material design and production

Once a set of common standards has been identified, report 2.2 develops some of these. Different reasons justify the choice of student support and learning material design and production;

- Located at a student centred perspective, the student support dimension becomes essential.
- The perceived quality for the user is directly linked with these processes.
- The two chosen processes are present in any ODL learning and teaching action.
- The preferences of the partnership. Furthermore it is a shared opinion that these processes would be more useful for third institutions.

4.5 Definition of the elements used

This point in the document not only provides a definition of the key concepts, but also the way in which they are understood by E-Quality.

- **Activity**- A situation in which something is happening or a lot of things are being done.
- **Artefact**- An object that is made by a person.
- **Roles**- The function or position that a subject has or is expected to have in an organization, in society or in a relationship.

**ACTIVITY**- In a working scenario, an activity could be most often described as a common and repeated action, carried out by a professional or a group of professionals. For this purpose the staff involved may need artefacts, tools, instruments and of course personal specific background and capabilities.

Some characteristics of this concept in the context of the project are:

- Each activity needs some prior development, before moving on to other activities to build up a base for performance.
- Each activity is intended for future organizational development.
- Each activity is interconnected with the rest of the institution’s performance.
- Activities are completely linked to roles and artefacts. Consequently the results would depend on the particular people involved and the instruments used (there is a wide range of these).

**ARTEFACT**- According to the proposed definition, an artefact is an object used by a person as an instrument used for specific purposes. There are two possibilities when using artefacts; the first is standard use (e.g. all instructional designers use a computer to do their work). On the other hand, some artefacts are modified according to contextual needs on two levels: organizational (e.g. specific software developed and used for a single company), and adaptation at a personal level (e.g. an individual Virtual Learning Environment set up).

Artefacts are also closely related to the other two analyzed concepts. They represent the tools used in the context of an activity and by a person or group of people.

**ROLES**- The e-Quality approach in this concept refers to the set of activities that make up a professional, in real terms. Although it is impossible to separate the professional and the integral level the focus here is on the professional dimension.

A professional role is composed of a set of skills, knowledge and attitudes guaranteeing the efficiency of the activities carried out. It is assumed that a particular professional role includes the ability to use artefacts to develop the work.
It is important to note that each role is linked with different activities and consequently with different artefacts and other elements, depending on the country. Some statements need to be considered in analyzing this, and a number of resolutions will be needed in the forthcoming stages of the project. Depending on the country:

- A role can involve more activities
- A role can involve fewer activities
- A role can involve different activities (of a varying number)
- Different roles may involve the same activities, in other words, the title of the role differs even though the roles cover most of the same functions.

By examining the three concepts referred to above, and their connections, a quality description can be obtained for procedures and products, to provide a picture in terms of quality.
5. **Sub-process # 1: student support**

5.1 **Introduction**

Student support is the first chart developed. This chart is followed by the self-assessment grid tool to try to determine the strong and weak points of any particular institution, and to take stock of the situation in each case. For future steps, this grid should be connected with strategic planning for improvement. A second use for the self-assessment grid is to present objective information about the main issues related to quality, (to be able to provide requested information, taking dates into account for a rational allocation of resources, etc.).

The criteria used for the tool are the following:
- Useful.
- Adapted to stakeholders.
- Precise.
- Not too extensive, in order to facilitate further actions for improvement in third institutions. (Reinforcing pragmatic use).

---

### 5.2 Student support chart

<table>
<thead>
<tr>
<th>ROLE</th>
<th>ACTIVITY</th>
<th>ARTEFACT</th>
<th>ADDITIONAL ELEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Institutional integrator’</td>
<td>Guarantees that learners feel integrated in the institution by:</td>
<td>Informative dossiers</td>
<td>Links to get the latest version of requested software.</td>
</tr>
<tr>
<td></td>
<td>- Gives information about the institution</td>
<td>Demos about ‘learning at the UOC’</td>
<td>Links for students with no expertise in the use of materials on where to find manuals, guidelines, templates for self-learning.</td>
</tr>
<tr>
<td></td>
<td>- Explains the learning methodology</td>
<td>Virtual learning environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Makes them feel part of a community</td>
<td>E-mail</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Encourages them to begin the subject in the most satisfactory conditions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Familiarizes learners with the technology and the methodology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counsellor (in some scenarios these activities are undertaken by the tutor, and vice versa).</td>
<td>- Solves general doubts, not regarding specific subjects</td>
<td>E-mail</td>
<td>The didactic material</td>
</tr>
<tr>
<td></td>
<td>- Is the contact point between the learner and the institution</td>
<td>Virtual learning environment</td>
<td>Complementary educational resources</td>
</tr>
<tr>
<td></td>
<td>- Solves conflicts</td>
<td>Chat</td>
<td>Links to libraries, dictionaries, encyclopaedias, seminar, working days…</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mailing list</td>
<td>Bibliographies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Calendar</td>
<td>Performance guides</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ePortfolio tools</td>
<td></td>
</tr>
<tr>
<td>Academic ‘coordination’ services</td>
<td>- Design of ‘virtual classrooms’</td>
<td>E-mail</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Learning materials management</td>
<td>Virtual learning environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Support to counsellors, tutors and those responsible for subjects</td>
<td>Tools to design virtual classrooms and manage learning materials</td>
<td></td>
</tr>
<tr>
<td>Information transmitter</td>
<td>This role is mainly integrated in learning materials and other learning resources</td>
<td>Learning materials in web or written format</td>
<td>Other web resources inside the virtual learning environment</td>
</tr>
</tbody>
</table>
**Pedagogical supporter**

- Gives support in the design of personalized learning plans, design of learning activities...and any other pedagogical matter

**Coordinator** (this role has different names such as Person Responsible for the subject or Project Coordinator)

- Guarantees the coherence in the same subject carried out by several tutors
- Responds to learners’ academic complaints
- Guarantees quality in the subject performance
- Defines the general features and approach of the subject
- Sets up the schedule for material delivery
- Plans the sequence of courses
- Acts as the interface between the institution and the professional team
- Monitors the whole learning event and coordinate course assessment
- Guides the other actors involved
- Provides general advice on the methodology on following ODL
- Chooses the staff involved in each course
- Answers individual or collective questions about the functioning of ODL training, methodology, learning process
- Transfers to the relevant person other questions (i.e. questions on administrative issues or on content issues)

**Tutor**

- Solves specific doubts related to the subject
- Gives general advice on the specific methodology related to a subject

---

**Office software**

- Guidelines for the creation of learning activities
- Training in pedagogical issues
- Training in diversity attention

**Learning plan, which is the document that defines the objectives, contents, activities, evaluation and schedule in a certain subject, brochures and practical documents to present the proposed methodology on ODL**

- Tool to manage complaints

**Learning plan and also contents, activities, educational resources**

- Tool to introduce marks

**Links to extra-academic sites (student integral education)**

- Tools and links for professional guidance
- Designs evaluation and evaluates (continuous assessment)  
- Assesses the learner in a personalized way, answering individual or collective questions about the course material, evaluation tools and all topics related to course content or assessment  
- Motivates the learner in the accomplishment of the subject objectives  
- Promotes interaction and cooperative work among the learners  
- Transfers to the relevant person other questions (i.e. questions on administrative issues or on general methodology issues)

<table>
<thead>
<tr>
<th>Administrative support</th>
<th>E-mail</th>
<th>Virtual learning environment</th>
<th>Tools of conflict resolution</th>
</tr>
</thead>
</table>
| - Gives support in the ‘matriculation’ process, gives information, advice and help to potential learners during enrolment  
- Gives the student access to all the information available  
- Manages ‘academic expediency’  
- Sends out the learning material  
- Solves administrative and academic problems  
- Provides the successful student with his/her diploma | Tools to manage ‘matriculation aspects’ e.g. administrative software  
Protection law on the storage of personal information  
Tool to manage communication with learners  
Information document on ODL advantages and constraints.  
Practical information to give to students just after registration on the courses, e.g. the communication tools, the way to contact the coordinator, the tutor, the counsellor, etc. | |

<table>
<thead>
<tr>
<th>Technological support</th>
<th>Computer languages</th>
<th>Telecommunications tools</th>
<th>Manuals in the case of problems beyond their capabilities</th>
</tr>
</thead>
</table>
| - Personal support in technical issues related to the hardware and software, the virtual learning environment, server connection…  
- Technological design of the virtual | The requested hardware | |

Tools to manage ‘matriculation aspects’ e.g. administrative software  
Protection law on the storage of personal information  
Tool to manage communication with learners  
Information document on ODL advantages and constraints.  
Practical information to give to students just after registration on the courses, e.g. the communication tools, the way to contact the coordinator, the tutor, the counsellor, etc.
<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
<th>The requested software</th>
<th>Additional Information</th>
</tr>
</thead>
</table>
| Scheduler                                 | (this role does not exist in some scenarios, these activities are undertaken by the counsellor and the coordinator) | - Sets up the schedule for a learning event:  
  - material design  
  - material delivery  
  - assignments  
  - exams, self-tests  
  - guidance  
  - interactions  
  - feedback  
  - evaluation | Calendar tool, curriculum, project software, administrative software         | Guide for using calendar                                           |
| Spur/Motivator                            | (this role does not exist in some scenarios, these activities are assumed by the tutor and the counsellor) | - Looks after the interaction in a learning event:  
  - modes of interaction  
  - problems of interaction  
  - conflict resolution | e-mail, mailing list, chat, bulletin boards, website, e-learning platform, video | Guides for interaction using different tools                  |
| Access controller                         | (these activities are carried out by technological support in other scenarios) | Permits the access keys to different services to the actors taking into account their user’s rights, including login and passwords  
  - To guarantee the protection of privacy and intellectual property | Network servers  
  Learning Management System  
  Internet  
  Content Management Software | Login queries                                                                 |
| Educational secretary                     | (these activities are carried out by the administrative support in other scenarios) | The Educational secretary is responsible for student enrolment. | Administrative software, student register, calendar, curriculum | Registration forms  
  Budget software |
| Feedback                                  | (these tasks are assumed by the counsellor and possibly by a student with different pedagogical aims) | Feedback to students  
  - during and after learning event  
  - individual or group feedback | e-mail, e-learning platform, chat, mailing list, forms, ePortfolio tool, assignments tools | URL to complement their feedback                     |
| Rule maker                                | (these activities are assumed by the counsellor in other scenarios) | Creates rules for the learning event  
  - usually assisted by students  
  - also creates rules for all the actors involved | e-learning platform, e-mail | Rules and codes of conduct  
  Problem resolution |
<table>
<thead>
<tr>
<th>Role</th>
<th>Tasks</th>
<th>Tools</th>
<th>Resources</th>
</tr>
</thead>
</table>
| Initiator (these activities are developed by the Institutional Integrator in other scenarios) | Familiarizes students with e-learning and virtual platform           | e-learning platform, e-mail, curriculum, e-learning materials | Training materials  
|                             |                                                                      |                                            | Links to the latest version of student requested software  
|                             |                                                                      |                                            | Links to manuals, guidelines, templates of the use of technology |
| Group leader (this role could be assigned to students with different pedagogical aims; it is a motivational recognition and enhances involvement) | Guides the forming of the groups and their work                     | e-learning platform, chat, e-mail, groupware tools | |
| Technical adviser (this role is quite similar to the Technical Support) | Technical guidance  
- prevents and solves technical problems | e-learning platform, e-mail, different software, help desk | Software queries, FAQ  
Internet links |
| Interaction tutor (these activities are assumed by the counsellor in other scenarios. Overall, it is connected with the tutor role) | Activates and supports students in participating interaction         | e-learning platform, e-mail, chat, mailing list, groupware tools | |
| Evaluator (this activity is develop by the counsellor team and the coordinator in other scenarios) | Evaluates students’ activity  
- also self-assessment, peer-assessment | assessment forms, e-learning platform, exam tools, assignments tools | |
| Mentor                     | Shares experiences of e-learning within the work community  
- helps others in designing learning events | e-mail, e-learning platform, | |
| Hot line                   | - Answers individual questions about the functioning of the LMS and all the problems of access, compatibility, etc  
- Creates and maintains a FAQ  
- Regularly reviews the problems encountered by users and their possible solutions | LMS, email, skype, netmeeting… | |
| Quality manager            |                                                                      |                                            | |

110231-CP-1-2003-FR-MINERVA-M

28
5.3 Self-assessment grid (set of criteria and indicators)
Considering the relevance of the criteria to this student as a client of a survey\(^8\), the agreed criteria and indicators are the following ones:

<table>
<thead>
<tr>
<th>Prior to enrolment</th>
<th>Yes 9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Means and strategies for reaching different categories or potential users are in place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Materials and procedures for informing the potential learners about the course characteristics, aims and methodology are provided</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Satisfaction**
- Students receive information about programs, including admission requirements, tuition and fees, books and supplies, technical and proctoring requirements, and student support services
- Student interaction with faculty is facilitated through a variety of ways
- A structures system is in place to address student complaints
- There is a database to manage information related to student complaints, suggestions, etc.
- Equal opportunity policy is operational
- Percentage of unexpected questions from learners
- Criteria used to determine the students’ eligibility for admission are open and written
- Evaluation includes the student support dimension
- The services offered are perceived by the student as adequate and appropriate
- The institution’s policies and procedures are appropriate and adequate from the student point of view

**Student satisfaction and the help desk**
- There is a real help desk function available when the student needs it.
- There is a well designed FAQ service
- The help desk service involves person to person contact
- Student feedback on the services available on the course is requested and regularly collected

**Staff capabilities**
- Questions directed to student service personnel are answered accurately and quickly, with a structures system in place to address student complaints
- Capacity to manage complexity
- Communication skills
- Open mindedness
- Problem finding and solving
- Respect for diversity and multiculturalism
- Tolerance to users’ mistakes
- Support staff regularly briefed on the most frequent questions and problems encountered by students involving services
- Timetable of face to face support by teacher or through email
- Qualifications and training of persons involved in contact with students is assured

\(^8\) MENON. The Seequel Project. http://www.education-observatories.net/seequel/index
### Administrative solutions
- Technical services to train staff and teacher interaction with the student is implemented
- The HHRR perceive the offered services to be adequate and appropriate

#### Guidance and counselling
- Students are informed about costs and administrative arrangements
- Different payment facilities for the course fee are operational
- Measures are adopted to avoid drop out during the course
- There is a historical file about student retention on the different courses
- Steps are taken to retain students in the program

#### Learning aspects
- Before starting an online program, students are advised about the program to determine if they possess the self-motivation and commitment to learn at a distance and if they have access to the minimal technology required by the material design
- The student learning needs are identified, addressed and linked to educational objectives
- There is at least one specialist in training needs analysis and guidance
- Tools for detecting emerging needs of the learners during the course are in place
- Students receive information about the nature of learning and the personal discipline required
- Individual learners guidance services are in place
- Faculty and students agree upon expectations regarding times for student assignment completion and institution response

#### Technical issues resolution
- Feedback to student assignments and questions is provided in a timely manner
- Teachers have team player skills
- Teachers have intuitive and are lateral thinking
- There is recognition of previous achievements/prerequisites, etc.
- Flexibility of the learning path is assured in the module or course
- Flexible pedagogic and learning delivery models are adopted to meet different user needs
- Check the composition of learners groups per gender, income class, geographic distribution, educational level, etc.
- Learner able to relate or adapt tasks to own circumstances and aspirations
- Course and schedules are supplied with the educational program
- The students are able to personalize the interfaces
- The students are able to personalize the interfaces
- Throughout the duration of the course/program, students have access to technical assistance, including detailed instructions regarding the electronic media used, practice sessions prior to the beginning of the course, and convenient access to technical support staff
- Students are informed about technology requirements and required technical competence
- The technical assistance is perceived as user-friendly by the students
- Technological solutions are also able to provide student group support
- Students are encouraged to use the technical assistance
- Help is available for all hardware, software and delivery systems specified as necessary for the work
### Pedagogical resources

- Students are provided with supplementary course information that outlines course objectives, concepts and ideas, and learning outcomes.
- Students have access to sufficient library resources that may include a virtual library accessible through the www.
- There is a wide range of resources like electronic databases, interlibrary loan, government archives, news services, and other sources.
- Course materials promote collaboration among students.
- Tools to enhance the pedagogic effectiveness of technologies are provided: help online, map of the environment, tracking of the learner’s path, structure of the page, use of icons, etc.
- Tools exist for new and existing customer training needs analysis.
- A technology based system is implemented to track and collect statistical data on behaviour, to record the access time and frequency of student and other functionalities.
- Systems for collecting student’s use data and feedback are incorporated in operational processes.
- Procedures and tools are implemented to foster the process of self-evaluation on the value of the learning experience.
- The institution has alternative arrangements if not all the appropriate resources are available for students online.

### Communication possibilities

- The institution ensures communication (peers).
- The institution promotes student association.
- The organisation invests in resources and systems to provide effective user-friendly systems for students.
- Students feel that they are part of a community.
- The working staff believe that the student perception of the academic community is important and reinforces this aspect.
- Diversity of preferences and characteristics are taken into account providing different communication channels.
- Availability of different communication tools, also of student interaction with other students is facilitated in a variety of ways.
- Groups can be self-selected and or self-moderated, deciding own agenda and programme.

### Disadvantaged categories

- Specific financial aid measures are devoted to disadvantaged categories (e.g. grants, participation fees…).
- Staff competences include training and or experience in working with disadvantaged learners.
- Interfaces consider people with physical disabilities.
- The institution collects data (statistical and other…) related to excluded groups.
- Tools and services targeting disadvantaged categories are implemented.
6. **Sub-process #2: Learning material design**

6.1 **Introduction**

The aim of this point is to emphasize that this process could be approached in many ways; it relies on political, strategic, economic or even social decisions. Providing different training actions produces typologies such as subjects, degrees, masters, postgraduate’s courses or doctorates, which influence the design of each type of material.

6.2 **Different typologies by volume of online training offer**

In view of the natural institutional differences affecting the instructional design process, five different kinds of institution have been distinguished, according to their online training volume. These range from the smallest ones to the largest, resulting in five different self-assessment grids and modifications of the roles and activities undertaken. The institutions belonging to group 5 are recommended to use the set of indicators of the previous groups, the same applies to the institutions located in group 4 with the previous indicators, and so on, for groups 3 and 2. These groups are:

- Group number 1: ODL HI offering between 1 and 5 homogeneous or almost homogeneous training actions (the type of actions refers to categories such as masters, doctorates, postgraduates courses, subjects, etc.). [See point 6.4 of this document.]
- Group number 2: ODL HI offering between 6 and 10 training actions. [See point 6.5 of this document.]
- Group number 3: ODL HI offering between 11 and 30 different academic typology training actions. [See point 6.6 of this document.]
- Group number 4: ODL HI with more than 30 different academic typology training actions. [See point 6.7 of this document.]
- Group number 5: ODL HI with more than 30 different academic typology training actions with one or more training programmes. [See point number 6.8 of this document.]

This will provide a solution to meet the different needs of the whole range of online higher institutions.
### D2.2 Conceptual Model for ODL Quality process

#### 6.3 Material design chart

<table>
<thead>
<tr>
<th>ROLES</th>
<th>ACTIVITIES</th>
<th>ARTEFACT</th>
<th>OTHER ELEMENTS</th>
</tr>
</thead>
</table>
| **Content producer** (these activities can be developed by other roles such as Lay Out Expert, Content Designer) | - Produces content based on the goals  
- also uses existing materials  
- materials suitable for e-learning | Office software, software for web design, databases, information sources, e-learning platform, internet | All kinds of text software in order to reach all types of content.               |
| Copyright specialist (these activities can be integrated in the Lawyer role) | - Takes care of copyright issues  
- copyright, legislation | forms, legislation, e-mail, internet | Latest laws, modifications in existing laws. Real court cases      |
| Information seeker                         | - Seeks materials from database, from the URL or from any other source | databases, information sources, internet, browsers | Libraries                                                                                          |
| **Pedagogy planner** (these activities can be developed by the instructional designer, or by the pedagogic coordinator) | - Creates and deals with the pedagogy of learning event  
- methods, guidelines and goals of e-learning  
- designs assignments etc. | Pedagogical software, e-learning platform, e-learning materials | Complementary educational resources. Additional educational resources. |
| Graphic designer (the graphic designer and the lay out expert may be the same person) | - Creates the images, illustrations, icons, graphs, etc.  
- Strives for a single graphic style for the course  
- Creates a graphic template for the interface with the platform  
- Creates a graphic template for the different kinds of course documents  
- Produces all the graphic elements needed to illustrate the resources | Photograph editors, graphic editors, Internet, images databanks, scanner, and camera, graphic standards (SUN or Microsoft), graphic elements to be used in the course material | Ergonomic principles  |
| Authors                                    | - Develop the required contents. Generally the text, but also additional resources, activities, etc..  
- Collaborate with the instructional designer to validate the pedagogical choices before the production of course material. | Text editor. Internet, state of the art resources, quotation software. E-mail. Curriculum. Documents to be used by the instructional designer and the rest of the team. | Correction software. Dictionaries. Encyclopaedias |
<p>| Sound Expert                               | - Develops the required sound resources. Locutions, pieces of songs, sounds, etc. | Audio software. Audio in different supports: tape, cd, etc. Internet. e-mail. Music Instruments. Synthesizers. Voices. Songs. Possibly index sequences, etc. | Production software |</p>
<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
<th>Tools/Software</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animation expert</td>
<td>- Creates the requested animations. Effects, short movies, etc.</td>
<td>Animation software, 3D software.</td>
<td>Images, Sounds</td>
</tr>
<tr>
<td>Integrator</td>
<td>- Integrates the different resources in the course</td>
<td>Integration and development software. Computer languages. Different media software.</td>
<td>Learning Management Systems, Didactic materials and learning resources</td>
</tr>
<tr>
<td>Lay out expert</td>
<td>- Includes the required media resources in the different interfaces of the course</td>
<td>Web editors, media editors</td>
<td>Media resources</td>
</tr>
<tr>
<td>Content designer</td>
<td>- Offers design treatment of the course text</td>
<td>Web editor</td>
<td>Media resources, Learning Management Systems</td>
</tr>
<tr>
<td>Testers</td>
<td>- Use the course and the previous models in order to detect errors, malfunctions, problems, etc.</td>
<td>Web editor, text editor, internet</td>
<td></td>
</tr>
<tr>
<td>Usability Expert</td>
<td>(these activities are often assumed by the instructional designer)</td>
<td>- Offers guidance about ergonomic decisions</td>
<td>Web editor, Internet, Human perception capabilities, Ergonomic knowledge</td>
</tr>
<tr>
<td></td>
<td>- Contributes to course structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Defines the navigation system</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Instructional designer
- Connects the product with to pedagogical model
- Connects the product to the didactic model
- Develops the learning plan
- Designs the global storyboard of the course
- Develops the pedagogical elements of the course
- Plans the teaching and learning processes
- Develops the educational activities
- Develops the complementary resources
- Produces mock-up dialogue with authors
- Chooses the media adapted to the content, the public and the other pedagogical elements
- Chooses the modalities of interactions in the virtual environment and the pedagogical resources such as simulations, solving problems, cases...
- Sets up a plan and development of reusable components for further training actions

| Learning Management Environment |
| Didactic material |
| Other educational resources |
| Learning planning |
| Examples of simulation, animation… |
| Mock-up of user interface |
| A resource model with all the components, each component is tagged as reusable or not |
| A metadata grid for each reusable component of the resource |

### Technical coordinator
- Plans the task of the technical part
- Implements and supervises the actions
- Checks the state of development
- Coordinates the human resources involved in the technical area
- Is attentive to problems and contributes to solving them

<p>| Computer languages, media software. Internet. |
| Graphic editors, photography editor. E-mail. |
| Learning Management System. |
| Quality management systems |</p>
<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
<th>Tools/Systems</th>
<th>Quality Capabilities/Project Management Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedagogic coordinator</td>
<td>- Plans the task of the pedagogical part. - Coordinates the pedagogical dimension with the technical area. - Implements and supervises the work of the multidisciplinary team (including the technical coordinator) - Coordinates task and human resources - Is attentive to the existing problems - Connects the course with the tutor and counsellor defined roles - Coordinates a course with the Publication Plan - Connects the course with the Learning Environment System - Sets up the schedule for: material design, resource allocation, resource production plan</td>
<td>E-mail. Web editor. Learning Management System. Quality management systems. Gantt Diagrams.</td>
<td>Quality capabilities. Project management software.</td>
</tr>
<tr>
<td>Pedagogy director</td>
<td>- Considers the opinion of the stakeholders who define the institution programmes - Ensures that a programme is being done in a collaborative way - Enlists external help for programme development - Defines a strategic studies plan - Defines the methodological guidelines - Establishes budget control - Controls the course characteristics and the institution’s academic norms - Controls the course within the accessibility policies - Develops the governing board’s requests - Considers the university’s academic norms</td>
<td>Email. Quality Management Systems. Internet. Benchmarks systems of Learning Environment Systems. Benchmarks systems of similar contents.</td>
<td>Legislation. Best practices. Innovative practices.</td>
</tr>
<tr>
<td>Head of Marketing</td>
<td>- Provides existing information about enrolled students as a key element in material design</td>
<td>Email, e-marketing team.</td>
<td>Control charts</td>
</tr>
</tbody>
</table>
| **Lawyers** | - Draw up authors’ contracts  
- Manage author’s rights  
- Manage copyright issues inside and outside the organism  
- Give information and advice on copyright to the people involved in producing documents and resources, or reusing existing ones  
- Write contract templates  
- Prepare individual contracts  
- Negotiate rights with copyrights owners | Contracts, editor software, copyright memento, copyrights and intellectual property agreements | State of the art, latest developments, latest modifications in laws. |
6.4 Self-assessment grid for Group number 1 ODL Higher Institutions (1)
Self-assessment grid for Open and Distance Learning Higher Institutions between 1 and 5 homogeneous or nearly homogeneous training actions (masters, doctorates, postgraduates courses, subjects, etc.)

<table>
<thead>
<tr>
<th>Formal aspects</th>
<th>Yes 9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>No 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The materials format is justified and there is guidance for use</td>
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<td>- The design is attractive</td>
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<tr>
<td>- The structure is open and flexible</td>
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<tr>
<td>- It has a clear index</td>
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<tr>
<td>- The titles offer guidance about the expected contents</td>
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<td>- The key information is underlined</td>
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<td>- There are summaries</td>
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<td>- There are graphic marks as a guide to the expected work involved (reading, synthesis, work in groups, etc.)</td>
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<td>- Images complement and reinforce the contents</td>
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<td>- The expected student tasks are well defined</td>
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<td>- There are graphs and charts to help the student’s understanding</td>
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<tr>
<td>- The course is complemented with links to related further resources</td>
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<tr>
<td>- There is appropriate vocabulary according to student level</td>
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<tr>
<td>- The content is clearly structured, taking into account the student’s level</td>
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<tr>
<td>- There are metaphors and analogies to reinforce understanding</td>
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<tr>
<td>- The examples are close to the daily life of the students</td>
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<tr>
<td>- There are different kinds of questions addressed to students</td>
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<tr>
<td>- Different answers are provided in terms of form and content</td>
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<tr>
<td>- Courses are designed with a consistent structure, easily discernable to students of varying learning styles</td>
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<tr>
<td>- The course includes a glossary, bibliography, etc….</td>
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<td>- It has a help option</td>
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<td>- It has a map site</td>
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<td>- It can be printed out</td>
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<td>- There is quality audio media</td>
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<td>- Students can adjust the audio volume</td>
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<td>- It is user-friendly</td>
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<td>- It has interactivity</td>
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<td>- It can be modulated</td>
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<tr>
<td>- It is motivating</td>
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<tr>
<td>- It is multicultural including language</td>
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<tr>
<td>- It is multiplayer</td>
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<tr>
<td>- There is a clear definition of the target groups</td>
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<tr>
<td>- There is an appropriate use/mix of different media</td>
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<tr>
<td>- The course has aesthetic quality</td>
<td></td>
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</tr>
<tr>
<td>- In the course production, the different metaphors, images, icons, etc. have a good quality level, promoting attractive interfaces</td>
<td></td>
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</tr>
</tbody>
</table>

Relation between learning objectives and contents
- Objectives and contents are related to the expected capabilities to reach at each stage
- Objectives are defined
- There is an explanation about the link between objectives and contents
- There is an explanation of the criteria used in selecting contents
<table>
<thead>
<tr>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Contents include facts, concepts and concept systems</td>
</tr>
<tr>
<td>- Contents include work flows</td>
</tr>
<tr>
<td>- Contents include attitudes, rules and values</td>
</tr>
<tr>
<td>- The material is consistent with the purpose</td>
</tr>
<tr>
<td>- Identification of learner objectives is assured</td>
</tr>
<tr>
<td>- There is consistency between the didactic strategy and course objectives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The information comes from different sources</td>
</tr>
<tr>
<td>- The information sources are available</td>
</tr>
<tr>
<td>- The information is updated and comes from a range of cultural sources (tradition, popular, scientific…)</td>
</tr>
<tr>
<td>- Culture, race, religion or gender diversities are treated positively</td>
</tr>
<tr>
<td>- The possible different points of view are show, whether these are shared by the author or not</td>
</tr>
<tr>
<td>- At the beginning of each unit, there is a summary of contents</td>
</tr>
<tr>
<td>- Contents are linked with previous learning</td>
</tr>
<tr>
<td>- Contents deal with practical problems</td>
</tr>
<tr>
<td>- Contents and demanded activities are well linked</td>
</tr>
<tr>
<td>- The contents are reliable and updated</td>
</tr>
<tr>
<td>- It has brand recognition</td>
</tr>
<tr>
<td>- The content structure and organisation are consistent with the didactic model</td>
</tr>
<tr>
<td>- The content includes the acquired knowledge</td>
</tr>
<tr>
<td>- The contents includes examples</td>
</tr>
<tr>
<td>- The theoretical pillars of the material are explained</td>
</tr>
<tr>
<td>- The pedagogical model is explained</td>
</tr>
<tr>
<td>- Transversal contents are integrated</td>
</tr>
<tr>
<td>- There is an explanation about the relations between the contents belonging to different units</td>
</tr>
<tr>
<td>- Interfaces are not full of text making student reading hard</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching and learning process</th>
</tr>
</thead>
<tbody>
<tr>
<td>- A teaching and learning model is set out</td>
</tr>
<tr>
<td>- Activities have different levels of complexity</td>
</tr>
<tr>
<td>- Activities are adapted to diversity, mainly to the different learning styles</td>
</tr>
<tr>
<td>- Activities are intended to assess progress</td>
</tr>
<tr>
<td>- The estimated time required to complete each activity is indicated</td>
</tr>
<tr>
<td>- Complementary activities are suggested</td>
</tr>
<tr>
<td>- The material includes a part devoted to activity resolution</td>
</tr>
<tr>
<td>- The activities are open and flexible</td>
</tr>
<tr>
<td>- Different products are demanded in activity development</td>
</tr>
<tr>
<td>- Guidelines are provided to complete the activities</td>
</tr>
<tr>
<td>- Activities are aimed at reflection</td>
</tr>
<tr>
<td>- Alternative sources of information are suggested to the students</td>
</tr>
<tr>
<td>- Autonomous work is allowed</td>
</tr>
<tr>
<td>- There is a balance between individual work, small group work and large group work</td>
</tr>
<tr>
<td>- Collaborative peer work is allowed</td>
</tr>
<tr>
<td>- Material includes self-assessment tools</td>
</tr>
<tr>
<td>- Courses are designed to require students to engage in analysis, synthesis, and evaluation as part of their course and program requirements</td>
</tr>
<tr>
<td>- Problem-solving procedures are in place</td>
</tr>
<tr>
<td>- There is support for learner’s diverse needs</td>
</tr>
<tr>
<td>- Peer and tutor support processes are in place</td>
</tr>
<tr>
<td>- A communication strategy had been designed</td>
</tr>
</tbody>
</table>
- There are multiple ways of accessing in terms of background knowledge and skills
- The materials are learner driven
- There is an explanation on how to use the material
- There is an outline of work for the different units
- There are different proposals of use for each unit
- The material includes an explanation about the expected student characteristics, mainly the starting point they should have
- Suggestions are provided on how to find out about the starting point
- Didactic guidance is offered to enhance previous knowledge with learning activities
- Activities offer the chance of developing examples of the contents
- Guidance is offered about how to develop the different activities (comprehension, summaries, synthesis, etc)
- Guidance is offered about how to develop alternative and complementary activities
- The material design is based on a competence model
- The material design is based on a knowledge model

**Evaluation aspects**
- Initial evaluation is suggested
- There are templates, checklists or guidelines for continuous assessment
- There are continuous assessment tests to enable students to monitor their learning
- There are final tests
- There are explanations about the criteria used for each kind of evaluation
- Activities are suggested to students taking into account his/her evaluation results
- Instructional materials are revised periodically to ensure they meet program standards.
- Procedures for testing a draft version of the materials are put into practice
- Procedures for updating materials are put into practice
- Tools for monitoring the costs related to learning resources are implemented
- The learning accreditation system is available and linked to the national/European accreditation system context (e.g. ECTS)
- General criteria are offered for student assessment
- The course can be reused
- Different tests are carried out on course production, consequently the material is being improved
- During the course production there is a malfunction list, where technical and pedagogical problems are recorded and solved

**Link with other materials**
- There is an explanation of these materials
- Guidance is offered in how to use the complementary materials
- It is specified when the student should use each of these materials
- There is an explanation of the possibilities that this resources offer, they reinforce learning, they extend learning…
- There is a maintenance service of the existing links to regularly check whether or not all the links (including the external ones) are available anytime
### Technical aspects

- The different media are properly integrated
- The course has technical quality
- The material complies with standards
- The material has interoperability with other systems
- The material has portability with other systems
- The material is secure
- It calls for identification prerequisites
- It is low cost

### 6.5 Self-assessment grid for Group number 2 ODL Higher Institutions (2)

Self-assessment grid for Open and Distance Learning Higher Institutions with between 6 and 10 training actions.

<table>
<thead>
<tr>
<th>Formal aspects</th>
<th>Yes 9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The previous indicators can also be applied</td>
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<tr>
<td>- Guidelines regarding minimum standards are used in material design</td>
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<tr>
<td>- Material design is managed by a multidisciplinary team, content experts, instructional designers, technical experts, and evaluation personnel (some of the tasks could be subcontracted due to the volume of this institution category)</td>
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<tr>
<td>- The appearance of the different courses uses the same identity elements to indicate that they belong to the same institution</td>
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<tr>
<td>Relation between learning objectives and contents</td>
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<tr>
<td>The previous indicators also apply</td>
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<td>Contents</td>
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<td>The previous indicators also apply</td>
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<tr>
<td>Teaching and learning process</td>
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## 6.6 Self-assessment grid for Group number 3 ODL Higher Institutions (3)

Self-assessment grid for ODL Higher Institutions between 11 and 30 different academic typology training actions

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<thead>
<tr>
<th>Formal aspects</th>
<th>Yes 9</th>
<th>8</th>
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<tr>
<td>- Information provided by the marketing department related to the amount of expected students for a course is a key element for the course design. And also implies the destination of resources for it</td>
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### Relation between learning objectives and contents

The previous indicators also apply

### Contents

The previous indicators also apply

- The course is suitable to the language and contents to the targets
- There is an explanation about the relation of contents between different courses
- There is a specific author’s contract, and it is used for this course
- Author’s rights management is in place
- The Learning Environment System is coordinated with the course content to avoid repeating aspects

### Teaching and learning process

The previous indicators also apply

- The course is connected with the defined tutor role
- The course is connected with the defined counsellor role

### Evaluation aspects

The previous indicators also apply

### Link with other materials

The previous indicators also apply

### Technical aspects

The previous indicators also apply
6.7 Self-assessment grid for Group number 4 ODL Higher Institutions (4)
Self-assessment grid for ODL Higher Institutions with more than 30 different academic typology training actions

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<tr>
<th>Formal aspects</th>
<th>Yes 9</th>
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<th>7</th>
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<td>- The course is linked with the accessibility policies of each institution</td>
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<td>- The course is linked with the academic standards of each institution</td>
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<td>- There is a close relationship between the course and the strategic studies plan</td>
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<td>- The institution’s methodological guidelines are considered in the course design</td>
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<td>- The cost of the course production are linked to the rest of the global cost of the institution</td>
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<td>- The course is coordinated with the publication plan</td>
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<td>- Learning outcomes determine the technology being used</td>
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6.8 Self-assessment grid for Group number 5 ODL Higher Institutions (5)
Self-assessment grid for ODL Higher Institutions with more than 30 different academic typology training actions with one or more training programmes

<table>
<thead>
<tr>
<th>Formal aspects</th>
<th>Yes</th>
<th>9</th>
<th>8</th>
<th>7</th>
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<td>Territorial support centres can be used for information delivery (e.g. in CD) if this option has pedagogical reasons</td>
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<td>The course is well connected with the subject distribution plan</td>
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<tr>
<th>Relation between learning objectives and contents</th>
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<tr>
<td>The course responds to programme requirements, while the programme responds to a governing board requirement.</td>
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<th>Contents</th>
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<tr>
<td>all the involved stakeholders participate in the programme design. This avoids content repetition on other courses.</td>
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<td>The programme is built up in a collaborative way. In this sense each course content includes contributions from all the personnel involved</td>
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<td>The programme construction considers external expert opinions in order to ensure the updating of the contents and an objective approach</td>
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<td>The course considers the university standards</td>
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<td>The credits obtained are transferable between programmes</td>
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<th>Link with other materials</th>
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<th>Technical aspects</th>
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<tr>
<td>In the material design it is considered that some technical problems can be solved by the support territorial centres.</td>
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7. Conclusions

7.1 Summary of the main points described above
- Quality is a transversal issue; this approach is limited to the student Life Cycle for ODL HI, seen from the student centred perspective.
- This document must be taken into account within the whole e-Quality Project. It has emerged as a result of previous tasks, mainly the 2.1 report. In addition to this, it forms a basis for further production.
- The standard student life cycle is subdivided into eleven processes: management and policies, material design, course development, student support, additional services, technology, library, induction, financial and infrastructure elements, marketing, and human resources development.
- The two processes developed are presented in chart form, showing the relationship between roles, activities, artefacts and other elements.
- The self-assessment grid consists of a set of criteria and indicators used to take stock of the state of development of any one institution.
- The assessment obtained from a quality approach must enhance further actions leading to improvement.

7.2 Difficulties in highlighting the quality approach
To reach an agreement about the different existing names for a role is no easy task. In addition, the same role involves different activities depending on the country.

Material design is directly linked to the offer of each institution. Hence, a solution had to be found integrating the needs across the whole range. In answer to this, the institutions were divided in five categories.

Some difficulties were encountered in designing a lifecycle model that fits all these types of university. Therefore, the focus was placed on the stages and processes common to most European universities. Finally, the learning situations encountered in each of these institutions, were considered, such as the need to integrate students in a different learning system, management, instructional design, student support…

7.3 Possible further actions to improve quality
- The use of the self-assessment grids could enable problems and obstacles to be analysed.
- We strongly recommend building up a specific model for each institution.
- Any further improvement action must be closely linked to a DAFO matrix, and these actions should be listed.
- It is important to address the specific roles related to implementing each improvement in concrete terms. Make sure that all the people involved have got all the relevant information.
- Try to define creative solutions for the problems.
- Time each action and assess it.
8. Glossary of terms

**Accreditation**- Certification by a duly recognized body of the facilities, capability, objectivity, competence, and integrity of an agency, service or operational group or individual to provide the specific service(s) or operation(s) needed.

**Activity**- A situation in which something is happening or a lot of things are being done.

**Artefact**- An object that is made by a person.

**Assessment**- An evaluation process including a document review, an onsite audit and an analysis and report.

**Approach**- To start dealing with a problem.

**Audit**- An onsite verification activity used to determine the effective implementation of a supplier's documented quality system.

**Benchmark Data**- The results of an investigation to determine how competitors and/or best-in-class companies achieve their level of performance.

**Capability**- The total range of inherent variation in a stable process.

**CEN**- European Committee for Standardization

**Certification**- The procedure and action by a duly authorized body of determining, verifying, and attesting in writing to the qualifications of personnel, processes, procedures, or items in accordance with applicable requirements.

**Characteristic**- Distinguishing feature.

**Chart**- Page or sheet of information in the form of diagrams, lists of figures.

**Common Cause**- A source of variation that is always present as part of the random variation inherent in the process itself. Its origin can usually be traced to an element of the system which only management can correct.

**Competence**- Demonstrated ability to apply knowledge skills.
**Competency management** - A system used to identify skills, knowledge, and performance within an organization. Enables an organization to spot gaps and introduce training, compensation, and recruiting programs based on current or future needs.

**Conceptual** - An idea or principle that is connected with something.

**Control Chart** - A graphic representation of a characteristic of a process, showing plotted values of some statistic gathered from that characteristic, and one or two control limits.

**Correction** - Action to eliminate a detected nonconformity.

**Course** - Activities and information, combined in electronic or print format, designed to help learners develop proficiency in a skill or gain knowledge about a given topic.

**Courseware** - Any type of instructional or educational course delivered via a software program or over the Web.

**Criteria** - A standard or principle by which something is judged, or with the help of which a decision is made.

**Customer-focused e-learning** - Web-based learning programs targeted at current and prospective customers. By training customers online, companies attract new business and make people more comfortable with e-transactions.

**Customer satisfaction** - Customer's perception of the degree to which the customer's requirements have been fulfilled.

**Database** - An organized set of data that is stored in a computer and can be looked at and used in various ways.

**Design and development** - Set of processes that transform requirements into specified characteristics or into the specification of a product, process or system.

**Design input** - The physical and performance requirements of a device that are used as a basis for device design.

**Design Review** - A proactive process to prevent problems and misunderstandings.

**Design Validation** - Testing to ensure that product conforms to defined user needs and/or requirements. Design validation follows successful design verification and is normally performed on the final product under defined operating conditions. Multiple validations may be performed if there are different intended uses.
**Design Verification** - Testing to ensure that all design outputs meet design input requirements. Design verification may include activities such as:

- Design review
- Performing alternate calculations
- Understanding tests and demonstrations
- Review of design stage documents before release

**Detection or inspection** - A past-oriented strategy that attempts to identify unacceptable output after it has been produced and separate it from the good output.

**Distance Learning** - Situation in which the instructor and students are separated by time, location, or both. Courses are delivered to remote locations via synchronous or asynchronous means.

**Document** - Information and its supporting medium.

**Doctorate** - The highest university degree.

**EC** - European Community

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

**EN** - European Standard

**EQS** - European Committee for Quality System Assessment and Certification

**Establish** - Define, document (in writing or electronically), and implement.

**ETSI** - European Telecommunications Standards Institute

**Evaluation** - Any systematic method for gathering information about the impact and effectiveness of a learning event. Results of the measurements can be used to improve the learning offer, determine whether the learning objectives have been achieved, and assess the value of the learning event to the organization.

**Evaluation** - Any method used to gather information about the impact or effectiveness of a learning event. Measurements might be used to improve the offer, determine if the learning objectives were achieved, or determine if the offer has been of value to the organization.
**Grid**- A pattern of straight lines.

**Hardware**- Tangible, discrete product with distinctive form.

**Indicators**- A sign that shows you what something is like or how a situation is changing.

**Information**- Meaningful data.

**Internet**- An international network first used to connect education and research networks, begun by the US government. The Internet now provides communication and application services to an international base of businesses, consumers, educational institutions, governments, and research organizations.

**Internet-based training**- Training delivered primarily by TCP/IP network technologies such as email, newsgroups, proprietary applications, and so forth. Although the term is often used synonymously with Web-based training, Internet-based training is not necessarily delivered over the Web, and may not use the HTTP and HTML technologies that make Web-based training possible.

**Instructional Designer**- An individual who, using systematic methodology and instructional theory, creates content for learning events.

**ISO**- International Organization for Standards


**Just-in-time**- Characteristic of e-learning in which learners are able to access the information they need exactly when they need it.

**Management**- Coordinated activities to direct and control an organization.

**Management system**- System to establish policy and objectives and to achieve those objectives.

**Marketing**- The activity of presenting, advertising and selling a company’s products in the best possible way.

**Master**- A second university degree.

**Measurement control system**- Set of interrelated or interacting elements necessary to achieve metrological confirmation and continual control of measurement processes.

**Measurement process**- Set of operations to determine the value of a quantity.
Methodology- A set of methods and principles used to perform a particular activity.

Model- A simple description of a system, used for explaining how something works or calculating what might happen, etc.

Learning platforms- Internal or external sites often organized around tightly focused topics, which contain technologies (ranging from chat rooms to groupware) that enable users to submit and retrieve information.

Learning object- A reusable, media-independent chunk of information used as a modular building block for e-learning content. Learning objects are most effective when organized by a metadata classification system and stored in a data repository such as an LCMS.

Learning objective- A statement establishing a measurable behavioural outcome, used as an advanced organizer to indicate how the learner's acquisition of skills and knowledge is being measured.

Library- A series of books, recordings, etc.

Organization- Group of people and facilities with an arrangement of responsibilities, authorities and relationships.

Organizational structure- Arrangement of responsibilities, authorities and relationships between people.

Procedure- Specified way to carry out an activity or a process.

Process- The combination of people, machines and equipment, raw materials, methods, and environment that produces a given product or service.

Product- Result of a process. (May be services, software, hardware or processed materials, or a combination thereof.)

Project- Unique process, consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including the constraints of time, cost and resources.

QMS- Quality Management System

QSR- Quality System Requirements
Quality- The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

Quality- The totality of features and characteristics that bear on the ability of a device to satisfy fitness-for-use, including safety and performance.

Quality- Degree to which a set of inherent (existing) characteristics fulfils requirements.

Quality control- The operational techniques and the activities used to fulfil requirements of quality.

Quality improvement- Part of quality management focused on increasing the ability to fulfil quality requirements.

Quality management- The aspect of the overall business management function that determines and implements the quality policy.

Quality policy- The overall intentions and direction of an organization as regards quality as formally expressed by top management.

Output- The amount of something that a person, a machine or an organization produces.

Requirement- Need or expectation that is stated, generally implied or obligatory.

ROI (return on investment)- Generally, a ratio of the benefit or profit received from a given investment to the cost of the investment itself. In e-learning, ROI is most often calculated by comparing the tangible results of training (for example, an increase in units produced or a decrease in error rate) to the cost of providing the training.

Roles- The function or position that a subject has or is expected to have in an organization, in society or in a relationship.

Self Assessment- Process in which the learner determines his or her level of knowledge and skills.

Software- An intellectual creation consisting of information expressed through a supporting medium.

Stakeholder- An individual or group of individuals with a common interest in the performance of the supplier organization and the environment in which it operates.

Standard- A level of quality.
**Student**- Person who is interested in a particular subject.

**Subject**- An area of knowledge suited to the school, college, etc.

**System**- Set of interrelated or interacting elements.

**Technology**- Scientific knowledge used in practical ways in industry.

**Template**- A predefined set of tools or forms that establishes the structure and settings necessary to quickly create content.

**Test**- Determination of one or more characteristics according to a procedure.

**Testing**- A means of determining the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating actions and conditions.

**Usability**- The measure of how effectively, efficiently, and easily a person can navigate an interface, find information on it, and achieve his or her goals.

**Validation**- Confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use can be consistently fulfilled.

**Work environment**- Set of conditions under which work is performed.
ANNEX A. UOC Student Life Cycle Model

1. THE LIFECYCLE OF THE STUDENT

This is the example of the lifecycle of the student at the UOC. The graph represents the main processes carried out at the institution, from the point of view of the student’s path from their first contact with the institution until they leave it.

Do not pay attention to the enormous number of arrows. These describe the relationship between several processes, which is a more concrete aspect of the process map but will depend on specific issues from each institution. However, by looking at the direction of the arrows it is easy to imagine why the processes are organised in this way.

Here is a short description of the lifecycle:

Before starting, it is interesting to note that the WP2 mainly focuses on two sub-processes (processes, in fact) of this process map: planning and instructional design and course development.

Note also that our process of ‘student support and accompaniment’ only refers to administrative and technological support, but not to the academic, pedagogical or any other support related to the course itself. Of course, this map and its processes is only one model, the ‘most appropriate’ one for UOC needs and student target.

In the UOC’s case, due to the complexity and number of ODL courses in the institution, these two processes are subdivided into other sub-processes (this will be considered in depth later in the Wp2).

Starting with the lifecycle, at the beginning, the ‘potential student’ has a first contact with the institution (generally speaking, he or she is interested in one or more of the courses that the UOC offers).
Then, let’s say that the student decides to participate in the course. At this point it is very important that the student:
   a. receives a warm welcome
   b. is taught about how the ODL learning system works (how to study, methodological aspects, organisation, academic issues, when the course will start, how to use the virtual learning environment or multimedia learning materials...).
   c. feels that he or she is not alone in this ‘new way of learning’

These facts and others are included in the ‘Incorporation of the student’ process. It is their first step in the institution.

At this point in the lifecycle, the student has three options:
   1. to start the course (course development process)
   2. to ask about other services such as information about the course, digital libraries, advantages of studying in this institution or other services beyond the courses that the institution offers to students (other services process)
   3. to ask for support, such as any doubts not related to the contents of the course, solve technological problems, questions related to the institution... (student support and accompaniment process).

Note that there is also an arrow from the ‘incorporation of the student’ process to the ‘planning and instructional design’ process. This indicates that the planning and design of the course should be carried out by taking into account the specific target for a particular course.

The ‘management and coordination’ process has a special influence on the ‘instructional design and course development’ process in the sense that it determines, controls, and evaluates the way in which these processes are carried out for every course, as well as the criteria used and performance obtained.

Once the student finalises a course, he or she can decide to leave the institution or to start another course. In this case he/she would return to the lifecycle of the student.

The ‘human resources development’ process integrates all the tasks related to the selection and training of people, such as: selection of trainers for the courses, selection and training of staff... and it receives economic resources for these tasks from the ‘resources’ process, which basically is a process that establishes the allocation of money for some of the processes (see arrows).

The technological systems integrate all the tasks related to the delivery, assessment and production of technologies. This relates to tasks such as providing adequate applications to student management, design of the virtual learning environment and other applications...
ANNEX B. University of Tampere Life Cycle Model

UNIVERSITY OF TAMPERE

Minerva e-Quality Project

WP 2: STUDENT’S LIFE CYCLE AT THE UNIVERSITY OF TAMPERE

Tampere team

Introduction

Below you will find two flowcharts. The first one describes the student’s life cycle within the university, based on the laws and the acts in university education. The Universities Act (645/1997) and Decree (115/1998) include provisions for the mission of the universities, research and instruction, organisation and administration, staff and official language, students, appeals against university decisions and students’ legal protection.

The Basis of the Student’s Life Cycle on Law and Standards at the Lower Level

Legislation on higher education degrees comprises the Decree on the System of Higher Education Degrees (464/1998) and 20 decrees on the degrees issued in field of education. These decrees stipulate, for example, the objectives and scope of university degrees, their general structure and content, as well as the distribution of educational responsibility between different universities.

University degrees are regulated by field-specific decrees. The scopes of degrees are stipulated in the decrees pertaining to degrees and the degree regulations. Universities and their faculties decide on degree regulations and curricula.

In the degree system, in most fields there is a lower academic degree, a Bachelor’s level degree. Its scope is at least 120 credits, in other words, three years of full-time study. The minimum scope of the ‘higher academic degree’, called the Master’s degree in most fields, is 160 credits, in other words, at least five years of full-time study (or two years after completing the Bachelor’s degree). The scope of the Master’s degrees in engineering, architecture and landscape architecture taken at universities of technology is 180 credits.

In most fields, it is also possible to take a voluntary (postgraduate) Licentiate degree, which takes about two years of full-time study to complete. The full-time studies for a Doctor’s degree take four years after the completion of a Master's degree.

The field of medicine does not have a lower academic degree, and the higher academic degree is called Licentiate. The studies take 5–6 years, and their scope is 200–250 credits. Studies have been organised into study units, the extent of which varies and may include several types of work: lectures and other guided instruction, exercises or other independent work, set-book examinations, seminars and so on. In most fields, the study units form larger modules at three levels: basic or introductory studies, subject or intermediate studies and advanced studies.

The lower academic degree consists of basic and subject studies in the main subject (or degree programme), including a Bachelor’s thesis, and studies in one or more subsidiary subjects. For the higher degree, students must complete advanced studies in the main subject and prepare a Master’s thesis, in addition to the Bachelor’s programme. In the arts, the thesis may also be artistic proof of learning and skills.
All students must complete studies in the native language (Finnish or Swedish), in the other national language (Swedish or Finnish) and in one or two foreign languages. Degrees may also comprise either compulsory or optional practical training. In addition to the compulsory studies, students may include extra courses in their degree.

The decrees on degrees give universities more freedom to plan their degree programmes. The decrees also increase students’ options, although the freedom to choose subsidiary subjects and study units varies between different fields. Students may also complete part of their studies in some other Finnish or foreign university. From the beginning of August 2004 all the Finnish universities are partners in an agreement on adaptable studies, which means that students can on request, include studies from another university into their degree. The right to study at foreign universities is usually based on separate agreements. In addition, universities have developed special Master’s programmes, which are based on Bachelor’s programmes. These are often multidisciplinary degree programmes and are based on some new educational need in working life. Universities also organise courses and modules in foreign languages (usually English).

At the moment the legislation is changing, the parliament is to pass a new law and the government to give a new decree on university degrees, so that the new degree structure will be operational in the beginning on the academic year 2005-2006. In the flow chart on the student’s life cycle some of the changes are anticipated.

The Learning Event

As already mentioned above, study units may include several types of work: lectures and other guided instruction, exercises or other independent work, set-book examinations, seminars and so on.

Learning event:

The learning event is organized and structured according to the curriculum and therefore it is compatible with the mission of the university and the individual course. The learning event consists of three important parts that generate learning activity. These are:

- **Teaching strategies and techniques:** Pedagogical guidelines define the structure, working methods and activities of the course. Every teacher decides him/herself on the pedagogical guidelines of the course, but of course the existing pedagogical trends and the goals of institutions influence these guidelines. For example, collaborative learning, based on shared expertise, argumentation and critical thinking, is the main pedagogical trend in Finland. Study units may include several types of work: lectures and other guided instruction, exercises or other independent work, set-book examinations, seminars and so on.

- **Communication and support:** One important part of the learning event is interaction between different actors. This means interaction between student and peer group and between student and teacher, tutor and support personnel.

- **Learning materials and resources:** Besides the actors, materials and other resources also constitute the core of the learning event. Materials can be created by an individual teacher or by group of colleagues. Also libraries offer materials for teachers in traditional and in digital format. There is both pedagogical and technical support available for teachers. This means for example support in the designing, editing and digitalization of materials.

There are different support systems at the university of Tampere that play an important role in all learning events. The university’s information systems, technological systems and administrative systems surround individual learning events and provide resources for teachers and students.

- **Information system:** This system consists of libraries and information services. Students and the personnel of the university are provided with good facilities for information retrieval and processing.

- **Technological systems:** The computer centre offers technological services for students. For example user accounts and e-mail. Computer centre is also responsible for the technological infrastructure (computer classrooms, videoconferencing facilities). The learning technology centre is a support unit for the personnel of the university. They also administer the eLearning platforms.

- **Administrative systems:** the administration of the UTA handles the student register, course registration etc.
All these different actors, units and elements affect the quality of education. Therefore they are also an important part of individual student’s lifecycle.
ANNEX C. TUNIV Student Knowledge Life Cycle Model

The Technical University of Szczecin TEAM (TUNIV)

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10/05/2004

Polish Student’s Life–Cycle
Version 1

1. Background of the Polish education system

Poland, in general, does not offer a university with a purely distance learning (DL) mode. However, a few representative individuals in Polish higher education use methods and methodologies of distance learning within a limited range, compared to fully ODL-based examples, such as UOC.

ODL Centre of Warsaw Technical University, Poland’s largest ODL consortium is developing its own methodology of DL activity. The objective is to replace its partially computer-supported forms by integration methodology for the creation and arrangement of didactic materials, such as a DL course book, and the groupware environment (discussion groups and forums, web portals).

The DL course book development aims at linking information structure to form, based on hyperlinks of additional facets providing the possibility of meeting the SCORM standard requirements (modularity, portability, openness). This is expected to intensify the exchange of materials within a single consortium as beneficiary, as is the case in Poland.

Recently, we have observed a phase of learning mode transformation within universities, from its conventional form, through a hybrid form, up to full DL.

The material presented here is based on a conventional (non-DL) learning process analysis, which is the legal determinant of any educational process in Poland. Enrolling on a study course is based on initial testing procedure (examination), passing an entry exam and the candidate’s secondary school certificate (contest), prior to a maturity exam. In the case of the major universities (ranked by Ministry of Education – MoE), the certificate contest represents 40% of the examination grade, 60% are acquired from the entry exam grade.

A student follows his educational curriculum, varying from 3.5 to 5 years in a chosen faculty (university department). The faculty organises the didactic process, founded on legal regulations specified by the Subject Board requirements (initially set by the university, in accordance with MoE classification). Additionally, the process is completed by subjects that are valid and appropriate to a prospective market situation on the one hand, and on the other, with professionals and experts capable of teaching the subjects at the required and expected level. Often, in the case of new, facultative or exceptional courses, professionals are recruited from outside institutions, in order to provide the required didactic level of the faculty’s education offer. This results in the continuous support of innovation within the didactic process and significant knowledge acquisition.

Each year of studies is divided into 2 semesters (the winter course and the summer course). Each of the subjects takes place through 1 semester (some individual cases may vary, and take longer). Each course contains 10-11 subjects. Each subject is composed of lectures, exercises and laboratory courses. Additionally, the course project is introduced to the students in the form of a summary of the subject, lasting 1 semester. Students complete their studies by means of a diploma dissertation, which is crucial to obtain the certificate of the institution.

9 Contact author: ozaikine@wi.ps.pl
10 The figure with the life-cycle is on the last page of this document.
2. Comment on the OUC proposal

The main idea underlying the Student’s Life-Cycle proposal is precise, as it focuses on quality issues in learning, rather than the efficiency of educational institution functioning. The organisational perspective in university performance analysis tends to analyse planning efficacy within the educational activity of the institution, document workflow, and use of resources including all the learning process’ actors.

From our point of view, teaching the student is a multi-stage process of knowledge extraction, interpretation and transfer. The main objective for an education institution is to merge these into one consistent knowledge-driven process, stipulating efficiency from the university, not only in the organisational context, but also in terms of learning organisation. The factual challenge is to transform its abstract, knowledge-based scheme using the parameters and characteristics of the existing system layout of the university. An exact description of the student’s life-cycle, needs to include the organisational scheme (proposed by UOC for example) involving knowledge transfer within the organisation, as another aspect of the student’s life-cycle.

The UOC proposal offers a good solution to the organisation modelling issue. However, to cover the full spectrum of the problem it is necessary to produce a similar scheme functioning on a knowledge processing level. Moreover, the DL process actors’ roles and workplaces are to be defined in the context of the entire process as operation of (i) environment analysis, (ii) learning process planning, (iii) didactic material development, (iv) student characteristic definition, (v) preparation of intellectual workplace, (vi) adaptive setting of the learning process goals.

3. Proposal of the TUNIV Student’s Life-cycle

Our approach to the Student’s Life-Cycle is based on a competency indicator objective. It may be used for validation and verification of the entire knowledge-based learning process (KBLP). We consider competency as combining theoretical knowledge skills and practical knowledge use in real situations (applications). The competency range is based on fundamental knowledge being the requisite basis for procedural (specialized) knowledge. Fundamental knowledge is an abstract type of knowledge enabling the subject to use effective reasoning in any technical field. The subject’s competency (at engineer level for example) depends on the ability to combine the two – the fundamental and the know-how type of knowledge.

The proposed scheme models student’s intellectual progress, as a knowledge-based process. The scheme represents the main layers in KBP management. 5 levels have been isolated to enable the controlling and steerage of knowledge transfer and acquisition. Knowledge characteristics vary, according to the subsequent stages in the learning process.

Knowledge is not considered as a monolithic model, it is formed from a consistent set of models addressing and encompassing several education activity objectives.

Several actors are involved in the Student’s Life-Cycle presented here. These are professionals from certain fields working in the particular institution. We are particularly interested in the actors’ influence on the process of forming and consolidating a student’s knowledge, in the context of the given scheme.

The approach is characterised by the following entities:

- **I**: Stream of non-structured information from the university environment
- **II**: Actor responsible for input information analysis and representation in form of formal knowledge description (tables, knowledge maps, rules, data bases)
- **III**: Information entry, notation and representation
- **IV**: Stream of formalised knowledge
- **V**: Candidate
- **VI**: Graduated student
Definition of the actors:
Expert: individual, or group of professors responsible for the university’s public appearance and position. The highest competency indicator is represented by the Expert. The Methodologist is responsible for adapting the field model developed by the expert to the limitations and constraints of the organisation (this denotes the internal quality of the learning process). The task is defined as follows:
(i) on the one hand, to draw up the profile of the course specialisation, transposed to the real planning of lectures, laboratory and project courses,
(ii) on the other hand, to develop a Motivation Model (MM), transposed into a real educational offer in keeping with the university

Administration is responsible for the MM analysis (educational offer) and, based on this construct, forms the student contingent. Additionally, it plays a key role in the deployment of knowledge requirements to comply with the processes of the organisation. Teacher, Tutor, Supervisor are directly responsible for the courses. They adapt the education situation to group of students, based on their field of knowledge and pedagogical knowledge. Specifically, the Teacher concentrates on lectures – theoretical knowledge, the Tutor on laboratory courses – procedural knowledge acquisition, and the Supervisor on project courses and final degree certificate.

We will now specify the levels of the given scheme including the models and actors. The realisation of each level provides the definition of the function of each actor.

4. Multi-levelled structure of the learning process

4.1 Level 1 – expert’s level: analysis and innovation support within the learning process

The expert by analysing the labour market situation (within the region), recognising and identifying the current state of science knowledge in the field, develops the Domain Model (DM). Its main objective is to represent the required knowledge, at the requested time interval. The model’s validity and timeliness is interpreted as the difference between the knowledge gain inherent to the domain and the knowledge model enclosed in the student’s profile. This concludes support in the relationship between the labour market, professional scientific knowledge and the university’s academic responsiveness. The analysis of this set of elements results in the adaptation and continuous improvement of the knowledge domain model, producing innovation at each cycle of the learning process.

4.2 Level 2: learning process planning strategy

This level provides the initial setting of learning process objectives. The Domain Model is considered as a reference model of the student’s knowledge and determines the parameters for adapting the didactic materials for the student. The Motivation Model is a result of the methodologist’s analysis of the Domain Model. MM indicates which students (specialists) will be prepared by the organisation. Feedback from Level 1 ensures that the knowledge obtained will secure their employment in the future.

On the strategic level, a particular organisation is adapted to market requirements. The adaptation process is a result of interpreting the Domain Model in the context of the organisation’s practical constraints, mission and strategic goals. This leads to the specialisation course profile. Next, the profile is transposed to a subject list, which creates both the education process perspective (horizon) and the Competence Model (CM). The education process perspective is a background for the study plan at the organisation (university). It is a result of requirements addressing particular learning activities – modification and innovation within lectures, exercises, laboratory and project courses. This may be specified in the following sequence: course development, course modification, knowledge-range alteration within the course type. Furthermore, other subjects are included, such as mathematics, which are an outcome of the education organisation’s mission. The Competence Model is a result of the total knowledge required and specifies the requirements level of the final diploma project course.

4.3 Level 3: Formulated didactic material content available on-line

At this level, using outlines and settings from level 2, Subject Board content is specified for each course included in the specialisation profile. Each course contains knowledge, according to the strategy prior to Domain Model analysis. The Subject Board structure and representation mode in DL and traditional learning vary significantly, based on the SCORM and knowledge repository.

At levels 3, 4 and 5 the following components have been integrated: student contingent’s formulation process and feedback loops (A, B, C, D) characterising the factual learning process within the contingent. The proposed approach includes the divergence of the knowledge processed, according to the course subject and its specifics.
Therefore, 4 learning process loops (feedback) have been outlined. Each loop is devoted to a different purpose with distinct characteristics. These are the following:

A  student’s knowledge base analysis. The teacher validates the student’s level of qualifications for a given course. The results become a vital parameter and criterion for the adaptation operation, which is used sequentially through the Learning Flow process. The testing process provides a measurement of the student’s range of knowledge within a particular domain. This is relevant to establish the student’s level of competence within the domain. Moreover, the quality of the student’s knowledge may be investigated, for example by analysing and identifying the depth of the concept.

B  stage of fundamental knowledge absorbance (learning), represented by lecture course. The teacher transfers abstract knowledge of the domain of discourse, enabling a student to master the skills of handling abstract concepts and reasoning within the given knowledge system.

C  procedural knowledge learning. Teaching is focused on software use, comprehension of particular computer-supported simulation areas (environments) functioning (comprehension of the applied metaphors). The tutor helps the student to transform his/her fundamental knowledge to an actual computer programme or events required to perform the simulation.

D  application of absorbed knowledge in a real situation; the aim of this stage is to apply acquired knowledge (stages B, C) to a real situation. The student is expected to classify the given task categories, to be solved efficiently, to use skills referring to his/her own cognitive schemes and apply the appropriate tool. The process ends by obtaining results analysis and producing conclusions.

Each of the loops refers to 3 levels: development or choice of the Learning Object (LO) (level 3), adaptation of factual LO (level 4), testing, validation of the test results (level 5).

The final mechanism of the entire learning process validation is a process of diploma formation and development. The diploma thesis consists of the knowledge acquired by the student throughout the entire learning process. Correspondingly, the form of the actual domain model will influence the form of the thesis. This provides an opportunity to correct any perceived deficiencies, in order to achieve the main goal: the student possesses knowledge, strongly related to and meeting the market requirements.

4.4 Level 4: adaptation operation – preparation of the student contingent

The adaptation operation adapts the reference knowledge form comprising the models from level 3 to the real education situation. At this level students are identified (considered as group). The situation is altered by setting up a personalised selection of (or perspective on) the knowledge, based on the teacher’s/tutor’s/supervisor’s knowledge. The knowledge is not cancelled out, but the moment of its transfer and order of application is positioned on a timeline.

4.5 Level 5: Implementation and application of the KBLP and didactic material preparation

This level represents the implementation and application process of the composed learning process (KBLP), resulting in making the didactic materials accessible. All the actors work in on-line consulting mode.

5. The quality issue

The quality of the learning process may be considered as efficiency of knowledge transfer to the student’s mind. The decisive quality indicators are generated by controlling components (C1, C2, C3, C4). Efficient identification of the parameters influences the adaptation process, which defines a form of knowledge transfer to particular situation, specific to the student contingent. If the adaptation operation fails, all the knowledge transfer may become inefficient.

The quality of university functioning is defined by efficiency in formulating and implementing domain models, throughout the studies. At the expert level, when a university dynamically and flexibly alters its studies plan in response to the requirements of the environment (e.g. the labour market), economic calculations and pedagogical conditions, the graduates succeed in the labour market, adding impact to the quality of the university.

6. Conclusion

The Student’s Life-Cycle should include and integrate 2 processes – UOC and the proposed approach of KBLP. Integration means abandoning constraints and cultural differences between European students. Apart from developing the knowledge repository, KBLP supports adaptation and the individual classification of the various
education situations (classification prior to student characteristics). Each student is processed respectively, because subsequent knowledge models are formed (A, B, C, D), specific to the student’s characteristics (obtained at testing stage).

The proposed model of Student’s Life-Cycle offers precise clarification of the didactic materials and the stages at which they are used. The didactic material should be in a modular form, to turn activities that are considered inefficient and tedious, into apparent and effective tasks, based on hypertext-driven materials.

The proposed materials offer solutions on the organisational aspects of the education institution. An efficient division and assignation of functions to personnel is expected. Additionally, the model contributes certain notions about required personnel competencies.

Didactic materials are primarily supported by the hypertext mechanism. The materials may only be verified in the context of computer technology application, rather than from a cognitive point of view. The proposed model indicates possibilities for solving this problem.
Final conclusions:

- To increase clarity of the proposed model, a thesaurus should be developed providing clear, interchangeable definitions of the concepts occurring in the model,
- The model may be interpreted on a timeline, beginning from the left, and/or from the top of the diagram,
- The model includes consistent and closed feedback, as an integral management system of education organisation and the learning process

The diagram is presented on the next page.
Life-cycle: student's knowledge acquisition process.

Level 1:
- Domain model

Level 2:
- Methodologist
- Motivation model
- Studies program

Level 3:
- Base-knowledge model
- Fundamental knowledge model
- Practical knowledge model
- Project development knowledge model

Level 4:
- Adaptation

Level 5:
- Administration
- Teacher
- Tutor
- Project supervisor
- Supervisor

Candidate:
- Student’s data formulation
- Testing
- Control
- Learning
- Control 1 (C1)
- Practicing
- Control 2 (C2)
- Designing
- Control 3 (C3)
- Diploma thesis
- Control 4 (C4)

Graduated Student

Learning Flow:
- Course
- Lectures
- Laboratories
- Projects

Learning cycle
ANNEX D. Bibliography and webgraphy

1. 1STNCCLASS.COM. [http://www.1stnclass.com]

2. UNIVERSITY OF PHOENIX GLOSSARY. [http://www.uofphoenix.collegedegreeguide.com/articles/gloss.htm]


4. OXFORD DICTIONARY.


8. MENON. The Seequel Project. [http://www.education-observatories.net/seequel/index]


10. RUBIO, MARIA JOSE. “Focus and models of evaluation of the e-learning”. [http://www.uv.es/RELIEVE/v9n2/RELIEVEv9n2_1.htm]