



# **Preliminary Competence Inventory for Web-based Trainers**

## Introduction

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The changes produced by the information techniques challenges and the pressure of the cognitive society to assure the universal and continuous access to learning imposed a new way of forming, i.e. e-learning. In this context, the traditional methods of learning and teaching are altered, as the lesson that places the teacher and the students face-to-face, in the same physical environment, is replaced by the lesson without a teacher, in which the students are situated in a virtual place that tends to become a knowledge community. The teacher's duties, his new *educational* tasks take the form of some roles that make people think of an Ianus-bifrons, a pedagogue and IT people who does not use the traditional pedagogical methods, but offers his students a *platform* which symbolically reunites complicated tools of the virtual space in the education service.

In the new reality, the teachers themselves are persons who are taught, in order to be able to cope with problems that are now partially known, but that ask for creativity and adaptability to the ever-changing situations. These characteristics bring about a new situation in which the academic environment and the units providing education realize competence profiles not using the classical work analysis, but anticipation and innovation.

We propose that the competence should be conceived as a stable ensemble of knowledge, capacities and attitudes that allow “the satisfactory progress of the activity and/or professional problem solving in a particular context, involving different integrated capacities.”<sup>1</sup> The three components of the competence are: the **knowledge** (declarative or conceptual), **the capacities** (procedural knowledge) and **the attitudes**, the last ones composing the individual's “personal equation” which allows him to master a situation or a family of situations, by applying knowledge and capacities into practice and, finally, to demonstrate the competence.

The WBT competences are structured in our model into two categories:

- A. Competences necessary to create web-based courses**
- B. Competences necessary to provide on-line training**

## DEVELOPMENT METHOD

The method of construction of the competence profile belonging to the new type of instructor, called Web-based Trainer, presupposed combined action: inductive, deductive and speculative/creative.

The inductive action consisted of extracting the convergent points from the analysis of some similar competence profiles, existing as public resources on the Internet. The depiction of the common elements regarding these sources imposed the identification of the following: what does WBT project, what does it execute, whom/what does it lead, what does it organize, what does it educate, whom does it counsel, what does it control, what does it evaluate, what does it assess, what does it maintain, what does it acquire.

The deductive method allowed the completion of the information as compared to the polyvalent tasks belonging to adult educators, according to the way they are presented in certain programmatic documents: the Law of adult education in Romania (2000) and the ordinance in the same year, Memorandum regarding permanent education drawn up by the European Commission (2000), at Commission Jean (1982) and the UNESCO Commission (1997).

Apart from the analyses achieved, this way of working also allowed us to formulate hypotheses on the probable working conditions peculiar to the Romanian environment and to the common European space, as far as the personality factors involved are concerned, completing the induction-deduction with the innovation. The anticipatory/speculative action has been achieved by a repeated brainstorming whose purpose was to invent and make an inventory of the possible professional situations and to characterize them by lists of essential indices.

## OBTAINED RESULTS

The WBT's competence profile, in the project version, is organized on two dimensions that sometimes intersect with each other: pedagogical competences and IT competences. According to the already existing models, pedagogical competences are divided into course-designer competences and tutorial competences.

The activities mainly performed by WBT are: documenting and projecting, developing web-based courses and multimedia contents, knowledge regarding students and counseling, relating to and communicating with individuals or with the virtual class, facilitating learning for diversified-needs people, personal developing and supporting the students' development, using IT for education, assessing all the past activities.

The main *values promoted* and the activity's favorable *attitudes* are: opening towards new experiences, integrating view, guidance, reflexive and self-reflexive attitude, propensity for cooperation, respect for the individual's rights, sympathy for the others, self-confidence, democratic attitude in interaction, personal involvement.

The *necessary abilities/capacities* are: e-education projecting, drawing up the electronic course and all the adjacent resources, communicating in order to establish, stimulate and maintain interactivity in the group, identifying the need of individual or group learning, the social need, facilitating learning, organizing the virtual class, using information technology in order to draw up and realize didactic materials, using multimedia equipments.

To all this, we should add *knowledge* from the fields of psychology, pedagogy/andragogy and IT.

For each category of this *Cyber-teacher's* competences (creating web-based courses and providing on-line training) we define:

- i) Pedagogical competences (how to project, provide and assess web-based courses, using specific pedagogical approaches and methods available to a WBT)
- ii) IT competences (how to use the new information technologies better in order to construct and provide web-based courses)

The **pedagogical competences** concern the following areas:

1. Instructional design
2. Developing the web-based course
3. Projecting and implementing evaluation
4. Providing on-line training
5. Developing one's career

The **IT competences** are divided in the following main areas of competences:

1. Designing and developing multimedia contents
2. Using multimedia equipments and IT technologies in communication
  - a) Projecting, realizing and evaluating web-based courses, using peculiar pedagogical approaches and methods, taking into account the information and communication technologies (ICT).
  - b) Providing on-line training as efficiently as possible using Internet technologies

Taking into account the tendency towards extension of this form of education (e-learning), an important approach in both competence categories addresses to the increase in the disabled persons' accessibility.

The project of the WBT competence profile, developed by UTBV by its experts, constitutes the first stage in drawing up a competence inventory at European level, which is to be validated during the process of analysis made by trans-national partners.

## **Attitudes necessary to the WBTrainer**

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**Reflexive and self-reflexive attitude** – orientation towards a critical evaluation of one's own experiences and of the others' activity, rational exactingness towards oneself or somebody else, wish for progress, the care for the well-done thing based on the confidence in oneself or in the other related to the anticipative assessment indicators.

**Self-confidence** – tendency to face obstacles, to take risks and cope with the unknown on the background of the knowledge regarding one's temporary limits, not letting oneself discouraged by a certain situation, optimism, anxiety self-control.

**Integrating view** – (weltanschauung) the tendency to look at the world as if it were organized according to humanist principles, as a whole in which each element contributes to the system's functioning and which can be a source of progress.

**Guidance** – orienting the activity according to some fundamental, lasting values.

**Opening towards new experiences** – guidance towards the world, towards knowledge, flexibility, valuing what is new, refusing routine and limitations.

**Orientation towards cooperation** – orienting towards the other, valuing the group and the work carried on together, internalizing the group's objectives, a win-win approach in conflict situations, orienting towards relating as far as public goods are concerned, avoiding isolation and personal vanities.

**Respect for the individual's right** – accepting the other and his/her right to personal opinion, his/her being considered as important, respect for difference, tolerance in opinions, objectivity, valuing the human being itself.

**Sympathy for the other** – humanist orientation towards the other, tendency to transpose oneself in this one's place and role, to take into account his/her problems and think them positively, compassion and offering hope and confidence in the future.

**Personal involvement** – assuming the other's problems, assuring him/her of your desire to help, taking initiative to support him/her to start again, doing one's best to help him/her.

**Democratic attitude in interaction** – consulting, asking for opinions, creating a space of expression for the others, refusing to impose one's own judgment and solutions, tolerance, recognizing the other's merits.

## I. PEDAGOGICAL COMPETENCES

Competence area: A. Instructional Design			
Competence	Definition	Description	Knowledge
<b>A1: Training needs analysis</b>	<i>To be able to perform the training needs analysis for the target group</i>	<ul style="list-style-type: none"> <li>- Identify the target group for the training</li> <li>- Apply the appropriate methods for identify the target group learning needs, including the disabled persons</li> <li>- Determine, for typical members of the target audience, the shortfall in knowledge, skills and attitudes compared to those required to carry out the tasks efficiently and effectively</li> <li>- Develop the learning profile for the target group</li> </ul>	Essential concepts from the domains: <ul style="list-style-type: none"> <li>- Adult psychology</li> <li>- Psycho-pedagogy of the disabled persons</li> <li>- Evaluation theory</li> <li>- Research methodology</li> </ul>
<b>A2: Designing the course syllabus</b>	<i>To be able to integrate the needs analysis conclusions and the training curriculum requirements in order to respond to real training need</i>	<ul style="list-style-type: none"> <li>- Use the curriculum for:               <ul style="list-style-type: none"> <li>▪ identifying the aims and the goals for a specific training level</li> <li>▪ identifying the relations among disciplines,</li> <li>▪ detecting the place of a discipline and its weight</li> </ul> </li> <li>- Establish the required pre-acquisition</li> <li>- Define the objectives of the discipline according to the curriculum aims;</li> <li>- Organize the topics into course units.</li> <li>- Establish the type of applications</li> </ul>	<ul style="list-style-type: none"> <li>- Curriculum theory</li> <li>- Learning theories</li> </ul>

Competence area: <b>A. Instructional Design</b>			
<b>Competence</b>	<b>Definition</b>	<b>Description</b>	<b>Knowledge</b>
<b>A3: Designing the instructional strategy</b>	<i>To be able to describe the components of the instructional strategy of the course, starting from learning objectives, learning profile of the training group and accepted principles for adult learning</i>	<ul style="list-style-type: none"> <li>- Determine the hardware and software environment required for implementation of the instructional strategy (including delivery of self-study materials, email, conferencing, etc.)</li> <li>- Establish the interactivity pattern</li> <li>- Design the algorithms for the possible ways to be followed by the learner through the course units</li> <li>- Identify the constraints, risks and the impact of web-based course on the educational process</li> <li>- Establish the assessment moments and types</li> <li>- Establish the course prototype</li> <li>- Identify resources, opportunities in view of implementation of the information technology, considering the characteristics of the adults'/disabled persons' distance education</li> </ul>	<ul style="list-style-type: none"> <li>- Instructional methodology</li> <li>- Evaluation theories</li> <li>- Psycho-pedagogy of the disabled persons</li> <li>- Curriculum theory</li> <li>- Educational software</li> <li>- Internet</li> </ul>

Competence area: <b>B. Development of the web-based course</b>			
Competence	Definition	Description	Knowledge
<b>B1: Designing the course content</b>	<i>To be able to design the course content and organization</i>	<ul style="list-style-type: none"> <li>- Define measurable learning objectives and specify the expected learning performance</li> <li>- Choose the learning content for each course unit and allocate the appropriate multimedia resources</li> <li>- Develop the overall learning strategies that are appropriate to the delivery platform, to objective and to the learners' needs</li> <li>- Specify the on-line resources recommended for enhancing the learning efficiency</li> </ul>	<ul style="list-style-type: none"> <li>- Instructional methodology</li> <li>- Learning theories, learning styles</li> <li>- Graphical interface design</li> </ul>
<b>B2: Developing the course content</b>	<i>To be able to develop the content of the course by assembling the designed elements</i>	<ul style="list-style-type: none"> <li>- Structure the content of the course into meaningful sections and arrange into a logical hierarchy or sequence</li> <li>- Establish the concept map of the course.</li> <li>- Allocate different ways for concept representation</li> <li>- Develop the possibilities for presenting the same message in different forms, appropriate to the individual needs (learning style, special needs)</li> <li>- Integrate all the elements (information, applications, self-assessment tool, multimedia) in a learning unit.</li> </ul>	<ul style="list-style-type: none"> <li>- Instructional methodology</li> <li>- Learning theories, learning styles</li> <li>- Evaluation theory</li> <li>- Cultural Anthropology</li> <li>- Internet</li> </ul>
<b>B3: Course maintenance</b>	<i>To be able to assure the course functionality and continuous improvement</i>	<ul style="list-style-type: none"> <li>- Develop a feedback provision system</li> <li>- Update the course as a result of the students' learning results, the course assessment and self-assessment, according to available resources (time and material resources)</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation theories</li> <li>- Instructional methodology</li> <li>- Specific domain knowledge</li> <li>- Internet</li> </ul>

Competence area: C. Evaluation System			
Competence	Definition	Description	Knowledge
<b>C1: Evaluation Design</b>	<i>To be able to anticipate the evaluation system</i>	<ul style="list-style-type: none"> <li>- Define the aim of the evaluation system</li> <li>- Establish the learning objectives that are to be evaluated</li> <li>- Selection the evaluation tools appropriate for each learning stage and learning activity (initial test, self assessments, final test)</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation theory</li> <li>- Learning psychology</li> </ul>
<b>C2: Evaluation implementation</b>	<i>To be able to develop and use evaluation tools</i>	<ul style="list-style-type: none"> <li>- Develop / select the evaluation / self assessment items</li> <li>- Integrate the evaluation items into a coherent evaluation tool.</li> <li>- Provide appropriate feedback for each evaluation item/ group of items.</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation theories</li> <li>- Learning psychology</li> </ul>
<b>C3: Web-based course evaluation</b>	<i>To be able to compare the course with the existing standards</i>	<ul style="list-style-type: none"> <li>- Develop /select evaluation tool for the web based course considering the general framework:               <ul style="list-style-type: none"> <li>▪ the learning content</li> <li>▪ the user interface</li> <li>▪ the involved psych-pedagogical aspects</li> <li>▪ the involved pragmatic resources</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation theory</li> <li>- Learning psychology</li> <li>- Internet</li> </ul>
<b>C4: Metaevaluation</b>	<i>To be able to develop an analysis of the evaluation methodology</i>	<ul style="list-style-type: none"> <li>- Reanalyse evaluation objectives and tools according to evaluation aim and results</li> <li>- Evaluation of the evaluation objectivity and relevancy</li> <li>- Establish the decisions as a result of data interpretation</li> </ul>	<ul style="list-style-type: none"> <li>- Evaluation theory</li> <li>- Research methodology</li> </ul>

Competence area: <b>D. E-Tutoring</b>			
Competence	Definition	Description	Knowledge
<b>D1: Leadership</b>	<i>To be able to develop and maintain a WBT virtual community</i>	<ul style="list-style-type: none"> <li>- Formulate the vision of the web-based course according to proposed aims</li> <li>- Transpose the vision in communication and motivation practices</li> <li>- Moderate communication (tutor-student, tutor-group, student-student), by using e-mail, discussion forums, text/audio/video conferencing, web-based pages, blogging.</li> <li>- Promoting a unitary view of work, knowledge, individual, technology</li> <li>- Stimulate the group auto-organization and the leadership behavior at group and learner level</li> <li>- Promoting rituals and ceremonies within the virtual group</li> </ul>	<ul style="list-style-type: none"> <li>- Management (negotiation theory, leading theory)</li> <li>- Social psychology</li> <li>- Communication theories</li> </ul>
<b>D2: Virtual group management</b>	<i>To be able to orientate the group activity in order to achieve the aims and objectives, coordinating the learners activity using a system of rules and procedures</i>	<ul style="list-style-type: none"> <li>- Scheduling the group and individual activities</li> <li>- Develop the learner groups</li> <li>- Monitor the learners' activity</li> <li>- Develop the communication system and results' evaluation system</li> </ul>	<ul style="list-style-type: none"> <li>- Management</li> <li>- Social psychology</li> <li>- Communication theories</li> </ul>

Competence area: <b>D. E-Tutoring</b>			
Competence	Definition	Description	Knowledge
<b>D3: Facilitating learning</b>	<i>To be able to give the appropriate support for the learning process</i>	<ul style="list-style-type: none"> <li>- Define clear learning objectives for a group or for individual</li> <li>- take specific action to detect, prevent and correct learning difficulties</li> <li>- take the necessary action to develop the students' self knowledge, focused on adult learning features and disabled persons</li> <li>- relevant and efficient use of e-resources for enhancing the learning process</li> <li>- give immediate and appropriate feedback</li> <li>- ask for assessment and comments about the courses, focused on clarity of expression, avoidance of overcharging, and digressions</li> </ul>	<ul style="list-style-type: none"> <li>- Learning psychology</li> <li>- Adult psychology</li> <li>- Instructional methodology</li> </ul>
<b>D4: Facilitating the development of the students' personality</b>	<i>To be able to support the formulate and acquire the personal ideal</i>	<ul style="list-style-type: none"> <li>- Know the students (collecting and taking over information regarding the individual characteristics)</li> <li>- Initiate actions aimed at developing the students' self-knowledge, regarding the aspiration level, the life ideal</li> <li>- Initiate activities for enhancing personal development projects</li> <li>- Define the specific aims for the different stages of the education</li> <li>- Design the plans for attaining the aims</li> <li>- Evaluate the accomplishment of the aims</li> <li>- Initiate actions aimed at developing self-knowledge focused on the elements and characteristics of learning in the case of adults and disabled persons</li> <li>- Initiate activities aimed at acquiring learning methods and strategies and developing skills regarding learning how to learn</li> <li>- Possible personal communication through internet and/or other media</li> </ul>	<ul style="list-style-type: none"> <li>- Adult psychology, adult personality</li> <li>- Learning theories</li> <li>- Psychopedagogy of disabled persons</li> </ul>

Competence area: <b>D. E-Tutoring</b>			
Competence	Definition	Description	Knowledge
<b>D5: Developing own career</b>	<i>To be able to design and monitor the own professional route</i>	<ul style="list-style-type: none"> <li>- Identify the personal and professional development field</li> <li>- Self-monitor the motivation for long-life learning</li> <li>- Administrate the personal time and stress</li> <li>- Self-knowledge of the management style</li> <li>- Use appropriately the feedbacks and suggestions obtained from students</li> <li>- Update materials in order to improve them (course and resource design / accomplishment, tutorial activities)</li> <li>- The self-control regarding the interactions with other actors involved in the learning situation</li> <li>- Evaluate critically the entire activity in comparison to the professional deontology (teaching in the virtual space – course, tutorial)</li> <li>- Self-evaluate the professional and personal progress</li> </ul>	<ul style="list-style-type: none"> <li>- Adult personality</li> <li>- Professional standards</li> <li>- Professional deontology</li> </ul>

## II. IT COMPETENCES

Competence area: E. Develop interactive multimedia content			
Competence	Definition	Description	Knowledge
<b>E1: Text and data processing</b>	<i>To be able to produce learning resources – text and data type</i>	<ul style="list-style-type: none"> <li>- Organize, build and use data bases</li> <li>- Text and data processing</li> </ul>	<ul style="list-style-type: none"> <li>- Specialized software</li> </ul>
<b>E2: Programming</b>	<i>To be able to produce instructional interactive applications</i>	<ul style="list-style-type: none"> <li>- Use of programming techniques and hypertext implementation</li> <li>- Use computer assisted instruction tools, modeling and simulation tools in specific fields</li> </ul>	<ul style="list-style-type: none"> <li>- Specialized software</li> <li>- Algorithms</li> <li>- Programming techniques</li> </ul>
<b>E3: Multimedia processing</b>	<i>To be able to develop multimedia applications</i>	<ul style="list-style-type: none"> <li>- Graphics generating and processing</li> <li>- Audio-video acquisition and processing</li> <li>- Animation generating</li> </ul>	<ul style="list-style-type: none"> <li>- Graphic design</li> <li>- Specialized software</li> </ul>
<b>E4: Course implementation</b>	<i>To be able to develop the web-based course by integrating the interactive multimedia resources</i>	<ul style="list-style-type: none"> <li>- Use tools and facilities created by/for electronic educational platforms</li> <li>- Design the graphical user interface (gui: building the project, building the template, keeping on the desktop a minimum number of icons, knowledge of elements of user interface ergonomics, updating/reusing/reaction to the received feedback</li> </ul>	<ul style="list-style-type: none"> <li>- Specialized software</li> </ul>

Competence area: F. Use the multimedia equipment in communication			
Competence	Definition	Description	Knowledge
Competence	Definition	Description	Knowledge
<b>F1: Hardware equipment use</b>	<i>To be able to install, use and assure the maintenance of the hardware equipment</i>	<ul style="list-style-type: none"> <li>- Use educational hardware</li> <li>- Basic troubleshooting support</li> <li>- Provide technical expertise</li> </ul>	<ul style="list-style-type: none"> <li>- Hardware equipment architecture and functionality</li> <li>- Operating systems</li> </ul>
<b>F2: Use of Internet tools for communication</b>	<i>To be able to assure the functionality of the Internet communication tools</i>	<ul style="list-style-type: none"> <li>- Internet services administration</li> <li>- Use communication tools: chat, e-mail, web-conferencing, discussion forum</li> <li>- Use data transmission equipment and software</li> </ul>	<ul style="list-style-type: none"> <li>- Specialized software</li> <li>- Data transmission techniques and technologies</li> </ul>