



# THE FORTUNE CURRICULUM ON USER TRAINING

## General introduction

The ultimate goal of the education part in the FORTUNE coherence is to support user participation in European R&D activities by qualifying more users with disabilities. At the forefront of this effort are the partners in the Fortune project who are specialised in R&D, information and advisory activities, user involvement and training in the field of assistive technology.

FORTUNE executed the training in two steps, first on national level an introduction to the learning method and the content. Following by an international seminar with more in-depth discussions and exchange. In the national and international course special consideration should be given to the different aspects of training people with disabilities.

To accomplish our objectives for the education we rely on curriculum design philosophies that reflects the central learning position of our different target groups. The main philosophy as reflected in Problem-based learning (PBL) is used.

In our approach we not only want to transfer knowledge to the students, but we mainly want to help them constructing knowledge on the different topics addressed in the curriculum.

While content always plays an important role in our work, finding the most effective ways to package and deliver content is the key to successful implementation. This requires an in-depth understanding of presentation and production values as the ability to actually apply them.

## Introduction of the learning method

One of the major goals of the FORTUNE project is to support empowerment of users. The educational method Problem Based Learning (PBL) is based upon the construction of knowledge by the participants and not on the transfer of knowledge. Hence, PBL supports the principle of empowerment by using the knowledge of the users in tutor groups.

### What is Problem-Based Learning?

Problem-based learning (PBL)[6.1, 6.2], at its most fundamental level, is an instructional method, characterised by the use of "real world" problems as a context for students to learn critical thinking and problem solving skills and acquire knowledge of the essential concepts of the course. Using PBL, students acquire life long learning skills which include the ability to find and use appropriate learning resources. The process used in PBL is as follows:

1. Students are presented with a problem (case, research paper, video tape, for example). Students (in groups) organise their ideas and previous knowledge related to the problem and attempt to define the broad nature of the problem.



2. Throughout discussion, students pose questions, called "learning issues," on aspects of the problem that they do not understand. These learning issues are recorded by the group. Students are continually encouraged to define what they know - and more importantly - what they don't know.
3. Students rank, in order of importance, the learning issues generated in the session. They decide which questions will be followed up by the whole group, and which issues can be assigned to individuals, who later teach the rest of the group. Students and instructor also discuss what resources will be needed, in order to research the learning issues, and where they could be found.
4. When students reconvene, they explore the previous learning issues, integrating their new knowledge into the context of the problem. Students are also encouraged to summarise their knowledge and link new concepts to old ones. They continue to define new learning issues as they progress through the problem. Students soon see that learning is an ongoing process, and that there will always be learning issues to be explored, even for the teacher.

### **What is the teacher's role in PBL?**

The instructor must guide, probe and support students' initiatives, not lecture, direct or provide easy solutions. The degree to which a PBL course is student-directed versus teacher-directed is a decision that the teacher must make, based on the size of the class, the intellectual maturity level of the students and the instructional goals of the course.

When faculty incorporate PBL in their courses, they empower their students to take a responsible role in their learning - and as a result, teachers must be ready to yield some of their own authority in the classroom to their students.

## **The curriculum**

The curriculum has been designed given the constraints of time and budget of any educational activity. Certain prerequisites are requested in regard to the skills of the students. One should not expect prior technical knowledge, or project experience. However, skills to communicate (also in English), to socialise, to be able to attend the full course, to have enough energy to go for 45 minutes performing a discussion session are required. The curriculum fosters the construction of knowledge in the most relevant domains for R&D project work. The curriculum has been elaborated and revised based on the evaluation of the FORTUNE seminars and the subsequent experiences in real projects.

FORTUNE designed the curriculum in two phases which express the importance of a careful constructed course of training. For the training/ course are two scenarios possible. They are presented after the curriculum modules.



## Phase 1 – Introduction level

<b>Overview of Modules for introductory level</b>	
<b>Module 1</b>	<b>Introduction to the FORTUNE training</b>
<b>Module 2</b>	<b>Introduction to user involvement, experiences and possibilities for user participation</b>
<b>Module 3</b>	<b>Problem-Based Learning (PBL)</b>
<b>Module 4</b>	<b>Introduction to R&amp;D</b>
<b>Module 5</b>	<b>Terminology</b>

<b>Module 1</b>	<b>Introduction to the FORTUNE training</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Understand the objectives of the FORTUNE training</li> </ul>
<b>Content</b>	This module gives a detailed overview on the rationale and the objectives of the training process. The context of running the training is explained.
<b>Material</b>	<ul style="list-style-type: none"> <li>• Copy of the Fortune training programme</li> </ul>

<b>Module 2</b>	<b>Introduction to user involvement, experiences and possibilities for user participation</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Know different ways for user participation</li> <li>• Understand the importance of the user's role in R&amp;D projects</li> <li>• Exchange experiences of user involvement/ participation in different projects</li> </ul>
<b>Content</b>	In the R&D world, many methods and ways of involving users in projects are used. In European projects many different actors are involved. In this combination of user involvement and partners in projects, there is a lot of misunderstanding. It is an important issue that needs to be stressed in the course. Using a case, possible roles of users and/ or user organisations will be discussed and clarified. Also, different methods for user participation will be introduced to the students.



Module 3	Problem-Based Learning (PBL)
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Become familiar with the principles and execution of an educational course, based on Problem-Based Learning (PBL)</li> </ul>
<b>Content</b>	<p>Problem-Based Learning is an instructional methods, characterised by the use of real world problems for students to learn critical thinking and problem solving skills and acquire knowledge of essential concepts.</p> <p>Using Problem-Based Learning, students acquire life long learning skills, that include the ability to find and use appropriate resources. In the module, Problem-Based Learning as an instructional approach, will be introduced to the students.</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>• Article "Problem-Based Learning: a student guide" by Eric C. Niederhoffer</li> </ul>

Module 4	Introduction to R&D
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Understand the processes used in the R&amp;D environment.</li> <li>• Understand the importance of user participation in these processes</li> </ul>
<b>Content</b>	<p>The R&amp;D world uses different descriptions for development processes, e.g. the product life cycle or the value chain. In this module, the presentation of a case study on product development will show the meaning of the several steps in these processes.</p>

Module 5	Terminology
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Become familiar with the ICIDH II</li> <li>• Become more familiar with the terminology used in European R&amp;D projects</li> </ul>
<b>Content</b>	<p>Communication is an important issue in national and international co-operation. All the participants in projects often use different terminology. The module will introduce different points of view, using terminology and classifications. On basis of a list of terminology, the consequences of the usage of the terminology will be discussed with the participants.</p>



<b>Module 5</b>	<b>Terminology</b>
<b>Material</b>	<ul style="list-style-type: none"> <li>Glossary of the TAP projects</li> </ul>

## Phase 2 – Advanced level

<b>Overview of Modules for introductory level</b>	
<b>Module 1</b>	<b>Introduction to the FORTUNE training</b>
<b>Module 2</b>	<b>Terminology</b>
<b>Module 3</b>	<b>Role Identification in R&amp;D Projects</b>
<b>Module 4</b>	<b>Methods of User Involvement</b>
<b>Module 5</b>	<b>Understanding of Disability</b>
<b>Module 6</b>	<b>Implementation of Assistive Technology</b>
<b>Module 7</b>	<b>Basics of Value Chain</b>
<b>Module 8</b>	<b>R&amp;D – Processes and Work</b>
<b>Module 9</b>	<b>The FORTUNE Concept of User Participation and Framework</b>
<b>Module 10</b>	<b>Projectwork in a European Context</b>
<b>Module 11</b>	<b>European Context of R&amp;D</b>
<b>Module 12</b>	<b>Closing of the General Training</b>

<b>Module 1</b>	<b>Introduction to the FORTUNE training</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>Understand the objectives of the FORTUNE training</li> <li>Realise the limitations of the training</li> <li>Get an overview on the training schedule</li> <li>Adjust the own commitment and expectations</li> <li>Get to know the tutors, facilitators and peers</li> </ul>
<b>Content</b>	At the beginning of this module all present persons introduce themselves. This module gives a detailed overview on the rationale, the objectives and the process of the training. The context of running the training is explained.



<b>Material</b>	<ul style="list-style-type: none"> <li>• Copy of the FORTUNE training programme</li> <li>• Short structured CVs of all participants (optional)</li> </ul>
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Module 2	Terminology
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Using key terms in the discussion with the partners in a project and understanding the consequences of using this terminology</li> <li>• Providing existing glossaries in digital formats as background information</li> </ul>
<b>Content</b>	<p>Communication is an important issue in national and international co-operation. Different actors and participants in projects often use different terminology. Also the usage of classifications like ISO 9999 and the ICIDH often causes problems. The module will not focus on the usage of the same terminology but on understanding the different viewpoint when using terminology and understanding the consequences of the usage of terminology.</p> <p>On the bases of a list of the most used terminology an explanation of the terms will be given and discussed with the participants.</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>• List with 15 most used terms</li> <li>• FORTUNE Paper by P.Vreeswijk about roles, terminology and consequences</li> <li>• Other existing glossaries</li> <li>• 5 examples of terms and their consequences</li> </ul>

Module 3	Role Identification in R&D Projects
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Identify different roles in R&amp;D projects</li> <li>• Understand the role of users in R&amp;D projects</li> <li>• Take consequences of these roles in terms of participation and work</li> </ul>
<b>Content</b>	<p>In European projects, many different actors are involved. Often, the starting point of projects are contacts between people and activities in international networks and organisations. All the partners in projects have a role to play in the execution of the work. It is clear to all the participants in the Fortune project that not all these roles are always clear to the partners.</p> <p>In this module a list of possible roles will be presented and discussed. A role-play will be guiding the participants through</p>



<b>Module 3</b>	<b>Role Identification in R&amp;D Projects</b>
	<p>these roles and the discussion.</p> <p>The main question to be answered is: What are my and the partners expectations about my role in the project?</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>List with most common roles in European R&amp;D projects</li> <li>Paper of Bas Treffers (EDF) about roles of users and user-organisations in project work</li> </ul>

<b>Module 4</b>	<b>Methods of User Involvement</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>Know about different ways for user involvement</li> <li>Understand the concept of user involvement</li> <li>Introduce selected methods by case studies</li> </ul>
<b>Content</b>	<p>In the R&amp;D world, many methods and ways of involving users in R&amp;D projects are used. This module will handle different methods and ways of user involvement to make the participant more familiar with these methodologies. Beside these methods, user involvement can also be seen as a concept for participation. With case studies a selection of methods will be discussed to learn about these methods and to understand and identify the concept of user involvement.</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>Excerpts of the FORTUNE deliverables 1.1 and 1.3</li> <li>Userfit Handbook</li> </ul>

<b>Module 5</b>	<b>Understanding of Disability</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>Analyse the own situation and translate it into more general terms</li> <li>Activate the knowledge of disability issues</li> </ul>
<b>Content</b>	<p>Many users participate in R&amp;D projects. They all know about their personal experiences and situation. This single case is often “used” as user involvement. The researchers often translate this single case into general terms.</p> <p>In this module, not only this generalisation process will be stressed but there will also be a discussion on how knowledge and experiences of users can be activated and used in projects by participating users and/or user organisations.</p>



<b>Module 5</b>	<b>Understanding of Disability</b>
<b>Material</b>	<ul style="list-style-type: none"> <li>• Introduction of ICIDH-2</li> <li>• <b>FFO document</b></li> <li>• Chapter user analysis of Userfit handbook</li> </ul>

<b>Module 6</b>	<b>Implementation of Assistive Technology</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Show the possible impact of AT on the individual level</li> <li>• Understand the main actors and their activities in the AT market</li> <li>• Have a clear understanding of the critical factors of the service delivery process</li> <li>• Understand the discussion between design for all and specific design</li> </ul>
<b>Content</b>	<p>The most important issue in this module is to understand the impact of Assistive Technology on the individual level. Based upon a case study, the students will learn about who is important in the AT market and understand the role of this actor. Also the service delivery process and its difficulty will be explained by means of a case study.</p> <p>The discussion about design for all and AT will be expressed with a discussion paper.</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>• The description of the CORE market model</li> <li>• Improving service delivery systems for assistive technology (HEART line C)</li> <li>• FORTUNE Paper by Ch.Bühler about design for all</li> <li>• Report of CERTAIN project: Critical factors and general outcomes of AT [1.2]</li> </ul>

<b>Module 7</b>	<b>Basics of Value Chain</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Get a clear understanding of the different steps of the value chain</li> </ul>
<b>Material</b>	<ul style="list-style-type: none"> <li>• FORTUNE Deliverable 1.1 – Methods and Experiences</li> <li>• User-Fit Handbook</li> </ul>





<b>Module 8</b>	<b>R&amp;D – Processes and Work</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Know about R&amp;D programmes</li> <li>• Know about R&amp;D frameworks</li> </ul>
<b>Content</b>	<p>The R&amp;D environment is often not very transparent to a lot of people. In this module the basic goals of, the processes of, the phases of and the problems in R&amp;D will be addressed. Using the expert of the Telematics Application programme the students will discuss and construct a better understanding of what is going on in these European R&amp;D programs and projects.</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>• Telematics Application Programme Documentation</li> </ul>

<b>Module 9</b>	<b>The FORTUNE Concept of User Participation and Framework</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Understand the ideal model of user participation</li> <li>• Use the criteria for assessment of user participation in projects</li> <li>• Understand the formal framework</li> </ul>
<b>Content</b>	<p>The ideal model of user participation in projects is introduced and analysed. The seven principles of user participation are discussed. The role as reference model for an assessment of real projects is elaborated. The criteria, indicators and values of the FORTUNE scheme are introduced. The FORTUNE framework is provided and in particular the Partnership Codex.</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>• The FORTUNE Concept with the seven principles of user participation</li> <li>• The FORTUNE Scheme</li> <li>• The FORTUNE Framework (Partnership Codex, Agreements, Task list)</li> </ul>



Module 10	Projectwork in a European Context
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Understand project organisation, planning, co-ordination, review, financial matters</li> </ul>
<b>Content</b>	<p>In projects a lot of steps can be identified with workpackages, tasks, deliverables, time-schedule and so on. <b>The FORTUNE project</b> (Technical Annex) will be used as the case for discussion.</p> <p>The students will identify the critical factors in the execution of European projects and will learn to understand the process and difficulties within these projects.</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>• Project phases and descriptions</li> <li>• Fortune technical annex</li> </ul>

Module 11	Projectwork in a European Context
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Basic understanding of EU</li> <li>• Understanding the difference between national and European R&amp;D projects</li> <li>• Know about the differences between different European programmes</li> </ul>
<b>Content</b>	<p>The European context becomes more and more important in a lot of activities on social, economic, healthcare and other matters. Also in the R&amp;D world Europe is important. This module will help the students to understand the European context in relation to national matters. The case of quality assurance of AT will be used for this discussion.</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>• <b>FORTUNE Paper</b> by CEAPAT about the European context of R&amp;D</li> </ul>



Module 12	Closing of the General Training
<p><b>Goals</b></p>	<ul style="list-style-type: none"> <li>• Summarise the achievements of the training</li> <li>• Transfer expectations into perspectives</li> <li>• Provide information on further networking options (remote communication, meetings, etc.)</li> <li>• Stimulate further communication</li> <li>• Start an evaluation of the seminar</li> </ul>
<p><b>Content</b></p>	<p>The seminar achievements are collectively summarised. The expectations of the trainees, trainers, and others involved in the process are discussed. A clear perspective is opened up on what the next steps will be, the formal framework and timelines. Possible means of communication between the attendees are explained and concrete proposals set. The evaluation of the seminar is prepared and started.</p>
<p><b>Material</b></p>	<ul style="list-style-type: none"> <li>• The experiences of this seminar is the primary input</li> <li>• Expectations and plans of funding agencies, user organisations, industries</li> <li>• Concrete proposal on further communication (dependent on the context of the seminar)</li> <li>• Evaluation questionnaire</li> </ul>



## **Scenarios for implementation of the FORTUNE curriculum**

Before starting the course following the FORTUNE curriculum it is important to assess the level of knowledge, skills and experience of the participants.

If the participants are relatively new in the area of R&D, then we advice to construct the course/ training following scenario 1. If the participants are familiar with the world of R&D, we advice to use scenario 2.

To assess the "level" of the participants the following guideline for an interview can be used.

### **Guidelines for the assessment interview for participants**

1. Do you understand what we want to reach with the training following the basics of the FORTUNE project?
2. Do you know how user can be involved in R&D projects?
3. Do you have any experiences in taking part in educational courses?
4. Can you tell something about how R&D projects are executed?
5. Why do you think user involvement is important?
6. Did you ever discuss with people from the R&D world about projects/ results etc.?

### **Scenarios for the construction of the FORTUNE course/ training**

#### **Scenario 1**

In the first scenario we advice to organise the course/ training in two steps, like we did it in the FORTUNE project. We first organised a courses on national level to introduce the items of the course and to ensure a comparable level for all participants in the international, more advance course.

#### **Scenario 2**

In this scenario the course is organised following a more content based sequence. We can image that the sequence is built upon the interest and knowledge of the participants, but also on a logic content based construct.

An example about content based construct could be like this:

1. Problem-Based Learning (PBL)
2. Terminology
3. Role identification in project work



4. R&D processes and work
5. Implementation of Assistive Technology
6. Understanding of disability
7. Basics of value chain
8. Methods for user involvement
9. The FORTUNE Concept
10. Projectwork in a European context
11. European context of R&D
12. Closing of the general training