

## **EA Training 2.0 Newsletter #3 - EA Active, Problem Based Learning Methodology**

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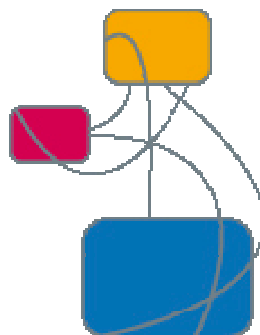
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# Innovative Enterprise Architecture Education and Training Based on Web 2.0 Technologies



# EA Training 2.0



## EA Training 2.0 Newsletter #3

### EA Active, Problem Based Learning Methodology

May 2010



## The Project

**Innovative Enterprise Architecture Education and Training Based on Web 2.0 Technologies** (EA Training 2.0) is a project co-funded by the Lifelong Learning Programme of the European Commission, which aims to fulfil training and educational needs of students and employees in public and private sectors regarding Enterprise Architecture (EA) using innovative problem-based pedagogies and Web 2.0 technologies. The project started in January 2009 and will continue till the end of 2010.



## Project Results

The main products of the project are an [innovative, active problem-based learning methodology](#) for EA education and training, [EA courses](#) for university students and private and public sector employees, and an [Enterprise Architecture competence ontology](#) including a complete specification of skills and knowledge needed by an Enterprise Architect.

Since the EA Training 2.0 idea concerns electronic support of learning and teaching processes of different groups of users (including adults), it requires a specific approach including problem based learning and Web 2.0 related technologies enhancing training and

learning processes. In order to address EA learning and teaching needs the innovative methodology was developed within work package 2.



## Problem based learning and Web 2.0 related technologies

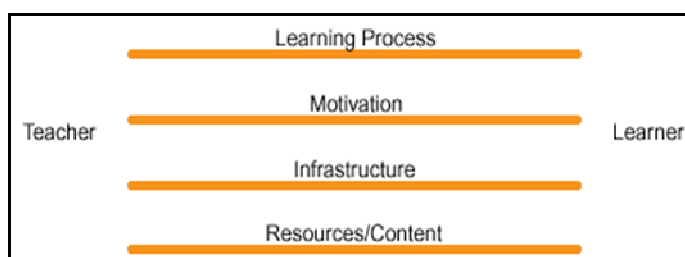
### *What is problem based learning and how it can be used*

Problem based learning (PBL) is a complex landscape of practices, but a common understanding of PBL is that it is a more student-centred pedagogy focusing on students' active and often collaborative production of knowledge through engaging with real world problems or cases. Building on former research and literature review we have extracted three important characteristics of PBL, which can be used by practitioners to develop different PBL-scenarios. A central aspect is how power is distributed between teachers and students across three dimensions: the problem, the work process, and the solution. Teachers can use such conceptual models to reflect on, whether students should be given a particular problem to solve, or whether it is important that students define the problem themselves. Likewise, teachers can reflect on whether students should manage the work processes, or whether it needs to be monitored by the teacher. Reflecting on these different aspects can support teachers in developing PBL-practices which are congruent with their own views of learning and institutional demands.

### *How Web 2.0 related technologies could enhance learning and teaching process*

Some of the core concepts associated with Web 2.0, such as collaboration, participation, creation and sharing are well aligned with common interpretations of PBL. In defining Web 2.0 we find it useful to distinguish between Web 2.0 as a range of technologies (e.g. blogs, podcasts, micro-blogging tools, and wikis) and then Web 2.0 as particular practices (e.g. (micro)-blogging, podcasting, and collaborative writing). We emphasise this distinction because it is important to remember, that employing a Web 2.0 technology does not necessarily entail pedagogically innovative Web 2.0 practices. For example a teacher may choose to create a blog, and then use it only to disseminate information to students, not allowing them to write or comment. However, Web 2.0 learning is not only about using particular technologies, but equally about the degree to which teachers adopt more student-centred, participatory or collaborative practices.

What further was identified in the workpackage 2 (WP2) is that with Web 2.0 new tensions and challenges arise. Particularly with student-centred pedagogies and Web 2.0 learning practices questions concerning power distribution between students and teachers become pertinent. Such tensions can be mapped across four central dimensions, which practitioners can use to reflect on their design and values. This can provoke questions like who controls the flow of the learning process – should students be self-directed learners, do they decide how to collaborate or is this managed? Who controls the technical infrastructure and decides what can be posted, shared and produced? Reflecting and deciding on such issues of control and ownership are and will become increasingly important with student-centred pedagogies



and when adopting technologies and practices (Web 2.0), which are more often employed in informal learning settings or for purely social purposes.



## EA Active, Problem Based Learning Methodology

The intention in WP2 was to develop a methodology for designing Web 2.0 mediated learning in EA courses. We have done so by building on the tensions identified in the cross field between Web 2.0 and Problem Based Learning. Furthermore, we used the “Collaborative e-learning design (CoED) method” as a design and reflection tool (CoED has been developed by e-learning Lab at Aalborg University for the Learn@Work-project (see further details about the CoED Method at [www.ell.aau.dk](http://www.ell.aau.dk) - Publications series)).



The method aims at developing design specifications and/or early prototypes in a one-day workshop by splitting the design process into three phases:

- 1) Focus the e-learning design process,
- 2) Identify overarching values and design principles, and
- 3) Specify design relating to activities, resources and infrastructure.

To make this method usefully related to Web 2.0 and a problem-oriented approach to learning we

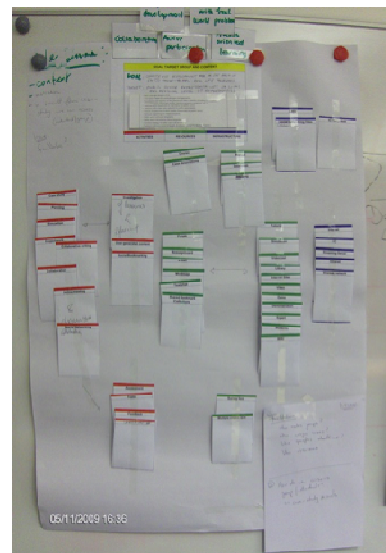
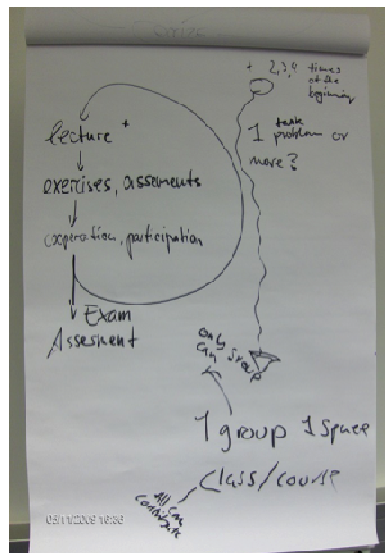
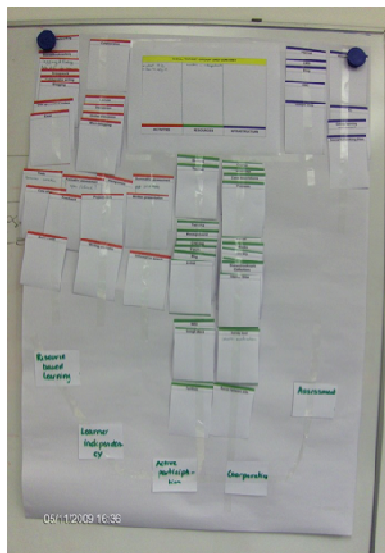
have modified the method and tried to implement the tensions identified in the cross-field between Web 2.0 and PBL into the method.

In November 2009 a CoED workshop was arranged in Vienna for all partners. Participants of the workshop were representatives of each project partner. The participants were divided into two groups; one dealing with university and another with private and public sector. Going through the three phases different issues were identified e.g. in relation to different kinds of assessment. For example one can be in a situation where collaboration and participation is promoted as a pedagogical value, but where individual assessment is required. Potentially this can lead to tensions between the activities promoted and the ways in which these activities are then valued. An important question is how to get from the goal to the assessment method(s), and what to take into account when designing the learning process – what are the purposes for engaging with an activity?



Another concern emerging from the workshop was an issue about pure online courses, and the need of a facilitator. Is it possible to design purely online courses with no facilitator or course instructor when we want to promote active problem based learning? How are purely online courses to be managed and who will be organising activities in the course? These considerations are very important when designing for Web 2.0 mediated learning.

Other issues emerging were around students' motivation for engaging with active learning. What or who is motivating the learner to do social bookmarking? Is the teacher able to motivate the learner to use a wiki for collaboration? What makes students want to share among each other and not keep valuable resources to oneself? Some of the issues raised during the workshop (and after the workshop) have been opened for further discussion and development of a practical framework for how to design and reflect on Web 2.0 mediated problem based learning and PBL practices into consideration in the design for Web 2.0 mediated learning.



<b>Unit X:</b> <b>Learning activities</b> - for planning you might use the Workshop Activity Cards <b>Tools and Resources</b> - for planning you might use the Workshop Resource Cards <b>Type of Communication</b> - channel & collaboration / cooperation / individual (the matrix from Dron & Anderson) <b>Interaction duration</b> - the estimated time-effort for the lecturer and for the student <b>(Assessment)</b> - considerations about assessments during the learning process  Consider the tensions in PBL and Web 2.0
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As a design framework a template was developed which relates intended learning outcomes (ILOs), pedagogical values, and motivation for change to the concrete modules or units in a course, and reflects choices in relation to e.g. duration, technology, and mode of communication and collaboration type. The intention of the framework is to arrive at an enhanced, refined and more focused description and visual overview of the designs initiated at the CoED workshop and the intention is to further elaborate and specify the designs for the upcoming pilot-courses in WP3.

<b>Motivation for Change/design:</b> - What is the motivation for using Web 2.0 technologies as part of the design of a EA course? - Is Web 2.0 technologies used to fundamentally change the learning approach? - Is Web 2.0 technologies used as part of an all ready established learning approach? <b>Intended Learning Outcome (ILO):</b> - Make considerations related to the tensions listed in the PBL and Web 2.0 frameworks. - Explain what intended learning outcome expected in the learning process? - Consider how to get from the goal (ILO) to the assessment method(s)?  <input type="checkbox"/> <b>Pedagogical Values:</b> - Consider and list your pedagogical values (might be the one listed at the CoED-workshop in Vienna - but also related to the tensions)		
<b>Unit 1:</b> <b>Learning activities</b> <b>Tools and Resources</b> <b>Type of Communication</b> <b>Interaction duration</b> <b>(Assessment)</b>	<b>Unit Y:</b> <b>Ongoing activity/process</b> E.g. the students are intended to blog about reflections on their learning process or building a portfolio etc.	<b>Unit Y2:</b> <b>Ongoing activity/process</b> E.g. the students are intended to establish a glosseri in a wiki collecting concepts
<b>Unit 2:</b> <b>Learning activities</b> <b>Tools and Resources</b> <b>Type of Communication</b> <b>Interaction duration</b> <b>(Assessment)</b>		
<b>Unit X:</b> <b>Learning activities</b> <b>Tools and Resources</b> <b>Type of Communication</b> <b>Interaction duration</b> <b>(Assessment)</b>		
<b>Assessment</b> - What kind of assessment method(s) is used to achieve the ILO - What are they assessed upon? (the process or the solution?)  Consider the tensions from the PBL and Web 2.0 frameworks in your course design		



Partners has filled-in these templates as part of the approach to WP3, where the further design of courses, platform and pilots are taking place.



## CONSORTIUM

The consortium consists of 7 organisations from 6 different countries.

Coordinator: University of Macedonia, Research Committee	Greece
Euroconsultants S.A.	Greece
University of Koblenz-Landau	Germany
Aalborg University	Denmark
BOC Asset Management GmbH	Austria
"Cities on Internet" Association	Poland
National University of Ireland, Galway	Ireland



## PROJECT FACTSHEET

**Project Acronym:** EA Training 2.0

**Project Title:** Innovative Enterprise Architecture Education and Training Based on Web 2.0 Technologies

**Contract Number:** 143434-2008-LLP-GR-KA3-KA3MP

**Duration:** 2 years

**Budget:** 642.855 €

**EC Funding:** 482.117 €



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please visit the EA Training 2.0 website at:

[www.eatraining.eu](http://www.eatraining.eu)



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