CEE as WBL

Work Package - Safety in Construction

1. Aims

To produce self training material using a learning environment. It is envisaged for two levels of technicians involved in construction: engineers and foremen. The material is intended also to be a support for some face to face training sessions. The learning objects considered for this work based learning package are a CDRom and a web interactive site. These will be tested in the working environment of a medium sized construction company.

2. Dates

Start – First month of 2004

End – Last month of 2004

Duration – 12 months

3. Staff days

U Porto – 20 days – Alfredo Soeiro – Cat 1 – Coordinator, senior engineer
60 days – Rita Falcao – Cat 2 – Elearning expert
20 days – Maria Joao Amaral – Cat 3 – Secretary

20 x 157 + 60 x 127 + 20 x 87 = 12500 Euros

Novopca – 25 days – Engineer (NN) – Cat 2
10 days – Secretary (NN) – Cat 3

25 x 127 + 10 x 87 = 4045 Euros

The contribution of the U Porto is 4500 Euros

4. Role and tasks of each partner

University of Porto – it is in charge of producing the learning objects, of testing the learning objects and of the related materials, of running and supervising the virtual and real training sessions and of disseminating the results within the university system related to this use of WBL in CEE and with Elearning in CEE.

Novopca – it is in charge of serving as testing laboratories for the learning objects with foremen and engineers, of evaluating the training results, of benchmarking the work based

learning experiences and of disseminating results with other construction companies interested in construction safety

5. Working methods and techniques

The adopted strategy is based on the collection of relevant materials available that concern each specific topic. Some are illustrated with figures that play an important role for graphic communication and understanding. The training is obtained mainly by specific exercises involving the trainee through simulations or through development of concrete solutions for problems. The work based learning intended is based on the responses to daily situations that engineers and foremen have to deal in terms of safety. The training is complemented when considered necessary with face to face sessions at any time during the fixed training period. These occasions will be also used to perform the external evaluation of the learning progress. The undergraduate students in civil engineering that used this material during their last year studies have already tested these materials. Their analysis was already embedded in the WBL materials that will be used by construction professionals of Novopca. The materials based on the learning objects are intended for regular updating and maintenance allowing the inputs from the learners and trainers.

6. Expected outcomes/results

The learning objects as outcomes of this project are the CDROM and the interactive website. The report of the assessment of the learning results of the WBL experience will be produced as a guideline for future use. One of the preoccupations of this Case Study is to have a consistent set of contents that are dedicated to the two types of technicians involved in construction safety and can be used while they perform their usual tasks. The possible indexes of contents are:

6.1. Common areas

- Purpose of module
- Training working method
- Safety legislation
- Safety organization

6.2. Engineers

- Safety management
- Models of safety management
- Statistical analysis
- Safety plan in construction
- Decision making
- Legal procedures
- Economic analysis
- Risk evaluation
- After the event

6.3. Foremen

- Site planning and layout
- Excavations
- Scaffolding
- Concrete placement
- Risk procedures
- Circulation of people, vehicles and materials
- Working environment
- Personal protective equipment
- Welfare facilities