METHODOLOGY

TRAINING MODULES FOR E-LEARNING IN HEALTH AND SAFETY SIGNS AND SIGNALS IN CONSTRUCTION INDUSTRY

e-Guide
CWH&S

INNOVATIVE E-GUIDE IN CONSTRUCTION WORKPLACE HEALTH AND SAFETY
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MYCCI Bulgaria
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EXECUTIVE SUMMARY

The general purpose of the training methodology for e-learning within Work Package 3 of the *Innovative e-Guide in Construction Workplace Health and Safety (eGudie CWH&S)* project is to define the e-learning content related to the health and safety signs and signals applied in construction industry as well as to provide details on the training and learning processes in the framework of the project.

With regards to this, it is necessary to set the educational objectives, provide guidelines for developing an effective, consistent and attractive training material, describe the elements of the training modules and outline the specifics of the e-learning tool.

OVERVIEW

The training methodology for e-learning aiming to develop an e-learning tool to train key competencies in health and safety signs and signals in construction industry is closely linked with the six pillars on which the e-Guide CWH&S project is based upon:

- ❧ Survey analysis of the state of the art practices concerning health and safety standards in the construction sector across the partner countries of Bulgaria, Turkey, Austria, Malta, UK and Spain.
- ❧ Discussion held with VET institutions and representatives of the business community leading to the conclusion that training in health and safety is vital, especially in industries with higher percentage of incidents on the work place.
- ❧ Research carried out by EuroStat and the European Agency for Safety and Health at Work reports that construction industry has been identified as one of

the sectors with the highest rate of incidents, where about 10 % of the employees suffer accidents at work every year.

ॐ The latest results of the European Survey of Working Conditions showing that almost 35% of workers in Europe feel that their job puts their health at risk. Some categories of workers are still exposed to occupational risks (young workers, migrant workers, etc.). Certain sectors are still particularly dangerous (construction/civil engineering, forestry and wood industry, agriculture, transport, etc.).

ॐ The identified common gap in all partner countries for inclusions of specific training in health and safety in the curricula of their VET systems.

ॐ Discussions with company managers in construction industry which have also confirmed that currently the needs for such training have been very big. Businesses have little resources to put complex systems of worker protection in place and tend to be more affected by the negative impact of health and safety problems. A great number of hazardous situations occur either due to little knowledge of newly appointed workers or underestimation of the health and safety signs and signals by experienced employees in the construction sector.

The training methodology for e-learning also rests upon the following strategic EU documents:

ॐ Skills Supply and Demand in Europe, Mid-term Forecast up to 2020 (CEDEFOP);

ॐ EUROPE 2020 Flagship Initiative Innovation Union (Communication from the Commission);

ॐ An Agenda for new skills and jobs: A European contribution towards full employment (Communication from the Commission);

ॐ Panorama on the Skill Needs in Europe, Focus on 2020 (CEDEFOP).

The rapid development of computer technologies and the boos of the Internet created both new challenges and opportunities to education. E-learning has been gaining popularity all over the world and appears to be more appealing to the contemporary

learners. E-learning is defined as "any form of training that uses a computer network for course delivery, interaction or facilitation and a browser for learner interaction". It is also called "distance learning", "web-based training" and "computer-based training".

E-learning has distinct benefits to the traditional classroom training. The advantages of e-learning are its **flexibility** and **cost-saving** for the learner as well as being **less expensive** for the developers of e-learning tools. On the other hand, e-learning can work from **any location** and at **any time**, can **be updated** and **managed easily and quickly**. Also, the learners can **select or choose the training material** that corresponds to their interests and level of knowledge. Successful completion of an online course **develops the computer skills** of the learners and builds their **self-confidence**.

PROBLEM DEFINITION

The eGuide CWH&S project aims to provide an attractive and modern approach to learning about the health and safety signs and signals in construction industry for VET students, VET trainers/tutors, company managers and workers in construction and the related industries. At the end of the training learners are expected to become familiar with the EU and national rules and regulations on occupational health and safety in construction industry, namely, with the risk factors and hazards, relevant signs, signboards and signals, the use of personal protective equipment, etc. The training material will be presented on an e-learning platform providing for flexibility of learning, testing the acquired knowledge and visualizing situations through a simulation game.

QUALITY AND FILE PROCESSING REQUIREMENTS

From the quality point of view, the e-learning tool should contain training materials that provide for:

- sound educational material open to future updates, improvements, transfer and multiplication;
- clear objectives with measurable results for self-monitoring and progress assessment;
- both trainer/tutor and learner interaction and self-training;
- in-built scoring system;
- flexibility of learning free of time and location restrictions;
- attractiveness through various interactive online exercises and a simulation game.

The technical specifications of the training modules prior editing on the e-learning platform should comply with the following requirements:

- MS Word document between 10-15 pages per topic/module;
- Font type – Times New Roman
- Font sizes:
    - size 14 for the headings
    - size 12 for the narrative parts

- MS Excel spreadsheets for the tests, including a scoring system;
- Visual files (pictures, photos) – min. 600 dpi, in strict respect to copyrights;
- Video clips – optional, however, in strict respect of copyrights.

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TOPICS

The application form contains 7 topics as follows:

- EU and national legislation in construction
- Hazardous and harmful factors in construction
- Risk assessment in construction
- Hazardous substances in construction, incl.:
    - ✓ Individuals
    - ✓ Environment
- Safety and health signs and signboards
- Signals and first aid (note: to include procedures on how to provide first aid)
- Personal protective equipment

The above topics have been agreed at the second meeting of the partners.

As per the decision the distribution of the topics among the project partners is the following:

	TOPIC	PARTNER
1	EU and national legislation in construction	MYCCI Bulgaria
2	Hazardous and harmful factors in construction	University of Forestry
3	Risk assessment in construction	MAKRO
4	Hazardous substances in construction Individuals Environment	Springboard
5	Safety and health signs and signboards	CEEI Burgos
6	Signals and first aid (note: to include procedures on how to provide first aid)	BEST
7	Personal protective equipment	Paragon

SPECIFICATIONS OF THE TRAINING MATERIAL

The training material should be organised around three pillars – theory, knowledge check, simulation.

Each topic will be presented in the form of a module containing two mandatory parts – theoretical and knowledge check. The theoretical part will provide all relevant information on the topic and will be supported by pictures and/or photos, audio and video files, where appropriate. Each module will contain the following mandatory sections:

- Module overview – a summary of the module explaining the contents of the training material.
- Headings and sub-headings – these are to separate the different thematic areas within the module and contribute to the clarity of the learning content as well as to the user-friendly format.
- Glossary of terms – key terms used in the module and their explanation, incl. abbreviations, if appropriate.
- Test your knowledge – the knowledge check section explained below.

The knowledge check section will be in a test form, including various exercises, for example:

- Multiple choice questions – 10 questions
- True/false questions – 10 questions
- Drag and drop exercises – between 5 and 10 questions
- Short case studies – 2-3 paragraphs
- Matching pictures to definitions – 5 questions
- True/False questions – 10 questions
- Other, e.g. crossword puzzles, etc.

The list of the type is exercises is provisional and does not exhaust all possibilities. It would be up to the partners' view to include as many different types of exercises as possible in order to contribute to the interactivity and attractiveness of the training material.

A common animated simulation game will be developed on the grounds of selected content from all modules. It will consolidate the whole training material and additionally contribute to the attractiveness and applicability of the e-learning content.

NB! The training modules, incl. the theoretical part, tests, glossary of terms as well as the animated simulation game will be translated in all partner languages, i.e. English, Bulgarian, Turkish, German and Spanish.

ACCESS TO THE E-LEARNING PLATFORM AND COPYRIGHTS

The development of the e-learning platform is funded by the EC's Lifelong Learning Programme, Leonardo da Vinci – Transfer of Innovations and the access to it will be free of charge for the learners and all interested parties.

The project partners cannot generate any profit out of the training materials and e-learning tool.

Reproduction of the training contents or parts of it for educational purposes shall not be subject of copyrights protection.

TIME SCHEDULE

The development of the training modules falls within WP3 of the project. The activities will be scheduled as follows:

DEADLINE	ACTIVITY
March 2014	Development of the training methodology
2-4 April 2014	Discussions and agreement on the first draft of the training methodology
14 April 2014	Development of the final version of the training methodology
15 April – 30 September 2014	Development of the first draft of the training modules
1-12 October 2014	Discussions on the first drafts of the training modules
15-31 October 2014	Development of the final drafts of the training modules
1 November – 31 December 2014	Translation of the training modules

By the end of September 2014 and prior to the third partner meeting the partners should circulate their modules among the consortium to enable the review, internal evaluation and discussions on the training material.