

PeTeX
Platform for E-Learning and Telemetric Experimentation

EU-Project, Lifelong Learning Programme
From 12/2008 to 11/2010

Project Partner:

- IUL: Institute of Forming Technology and Lightweight Construction,
Prof. Tekkaya, TU Dortmund, Germany (Coordinator)
- DTMPiG: Dept. of Mechanical Technology, Production and Management Engineering, Prof. Fratini, University of Palermo, Italy
- KTH: Department for Production Engineering, Prof. Nicolescu
Kungliga Tekniska Högskolan Stockholm, Schweden

Project Manager HDZ

Prof. Dr. Isa Jahnke, Juniorprofessorin

Prof. Dr. Dr. h.c. Johannes Wildt

Staff

Claudius Terkowsky

Matthias Heiner

Contact

isa.jahnke@tu-dortmund.de



Abstract

The project will create an innovative eLearning environment that combines telemetric experimentation a multi-perspective, self-directed learning and community communication. Within a concept of life-long-learning activities of engineering competences, the technology enhanced learning focuses on forming, cutting and welding (part of Production Engineering).

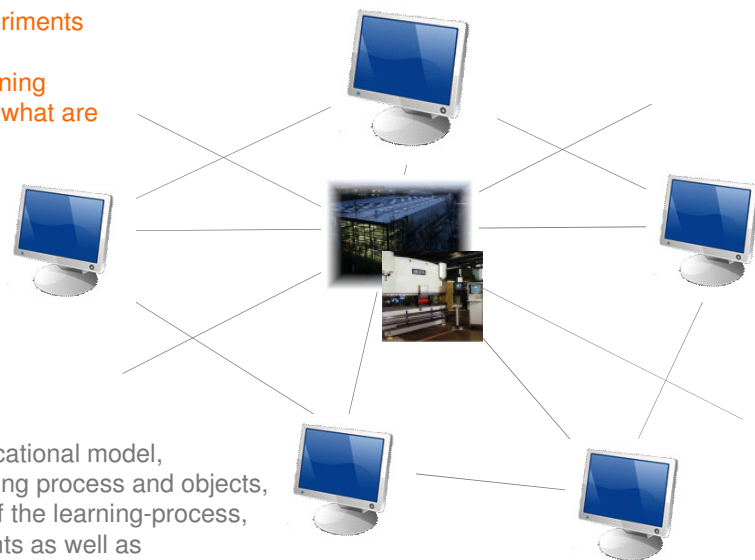
The HDZ develop training modules and facilitating them with **Internet based real experiments** on material testing. Such telemetric experiments will be realized through a **video supported online access into the real laboratory** – so that each learner from all over the world can experiment (observation, measurement and transmission of data) with real forming technologies.

Research Methodology & Development Process

- § Design-based Research &
- § Action Research: Phases of intervention (actions) and reflection (analysis)
 - I. Concept (e.g., Interviews with Instructors)
 - II. Prototype of sociotechnical learning community (e.g., Method of Sociotechnical Walkthrough => STWT)
 - III. Evaluation
 - IV. Re-considering of the platform for telemetric experimentations
 => evaluated and improved platform & cultivated community

Research Questions

- How to integrate successfully remote experiments into Internet-based learning processes?
- What are the chances for cultivating a learning community in Production Engineering and what are successful factors?



Aim and Objectives

The contribution of the HDZ is

- to develop and describe the educational model,
- the didactical design of the learning process and objects,
- the design of the e-moderation of the learning-process,
- integrating the remote experiments as well as
- self-directed and community-learning options.

In particular, the HDZ is responsible for constructing the learning-environment and the arrangements inside the learning-platform, and takes care of the educational quality of media delivery (learning objects and remote experiments) by the partners.