AGORA Project on Lifelong Learning and Digital Solidarity

Preparing future professionals for lifelong learning in higher education and in business academies

IFIP AGORA Initiative on Lifelong Learning 2007 Seminar
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Outline

- Case Study I on LLL: MoKEx
  - LLL on Educational Level: Integration of Practice in CSE
  - LLL on Content Level: Demands of the Industrial Partners
  - Organizational Structures
  - Outcomes
- Case Study II on LLL: Teachers Education as Lifelong Process
  - New goals & tasks of formal education
  - Universities should prepare for professional activities integrated with LLL – the crucial Role of Teachers
  - New context for preparing & training Teachers
- How to organize Collaboration and Digital Solidarity?
  - Project Approach
  - Concept of Studio and Atelier
  - Global Project Timeline
- Conclusions

Case study I: MoKEx

Partners

Mobile Knowledge Experience

- **Swiss – German Educational and Research Projects**
- **Joint Venture including Universities and Companies**
- MoKEx I October 2004 – September 2005 (20 students)
  MoKEx II October 2005 – September 2006 (20 students)
  MoKEx III April 2007 – March 2008 (20 students)

Universities:

UNIVERSITÄT PADERBORN
Die Universität der Informationsgesellschaft

Fachhochschule Solothurn Nordwestschweiz
Technik-Wirtschaft-Soziales

Companies:

SBB CFF FFS

swisscom mobile
Go far. Come close.

magh und boppert

steag
Learn-how

SWISSMEM

Main Educational Objectives

MoKEx

- Improve the software-technical and co-operative skills of students based on their previous knowledge in CSE
- Collaboration in an interdisciplinary and distributed team
- Project-based Learning Approach:
  Learning activities in the MoKEx-Project should be situated, self-directed, investigating and oriented on the practice of computer science → working on real-world problems
- Expected Total Outcome:
  Improve Computer Science Education (CSE) on a Higher Education Level by embedding Informatics Seminars at Universities in real-life scenarios

Phases of the Project

- **Initial stage**: build-up of competencies;
  partners are to define their expectations and hopes of what the project will deliver.
- **Evaluation stage:** students make requirements analysis at the industrial partners' sites and build up communication networks in personal responsibility.
- **Specification stage**: development of solution approaches;
  creating a document of specification
- **Realization stage**: development of a prototype of the software
- **Test stage:** The deliverables are tested;
  feedback from to all project partners.
- **Outcome and Presentation stage**: All outcomes of the project are embraced in a final presentation with the project partners.

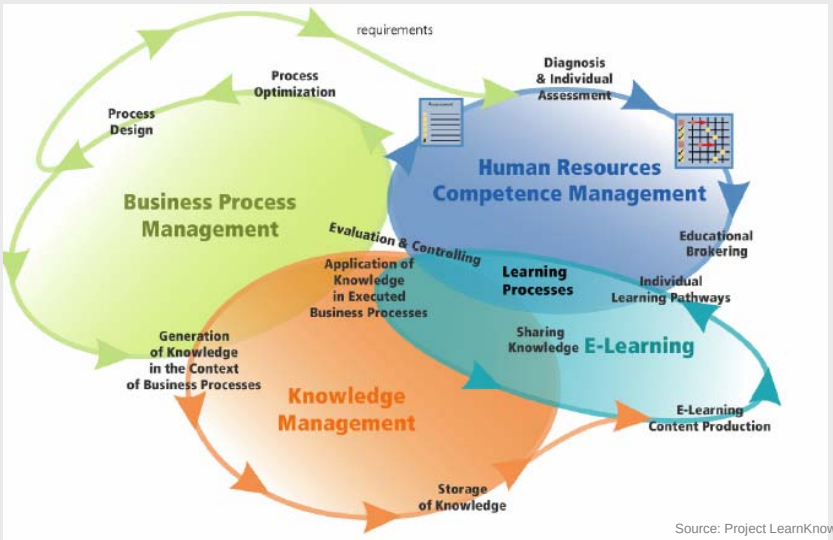
Task by Industrial Partners

The industrial partners of MoKEx are active in the knowledge-intensive service sector.

→ General Task by Industrial Partner:
to develop and implement software in order to improve e-learning and knowledge-management within the companies- especially to foster mobile learning and informal learning.

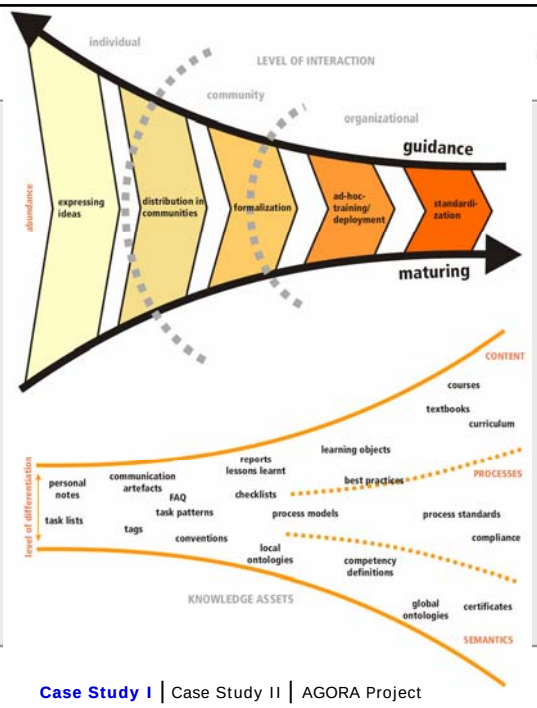
→ Therefore, requirements analysis, including the analysis of business processes of the industrial partners, is an important issue of the project.

Demands of Industrial Partners: Knowledge Maturing Process



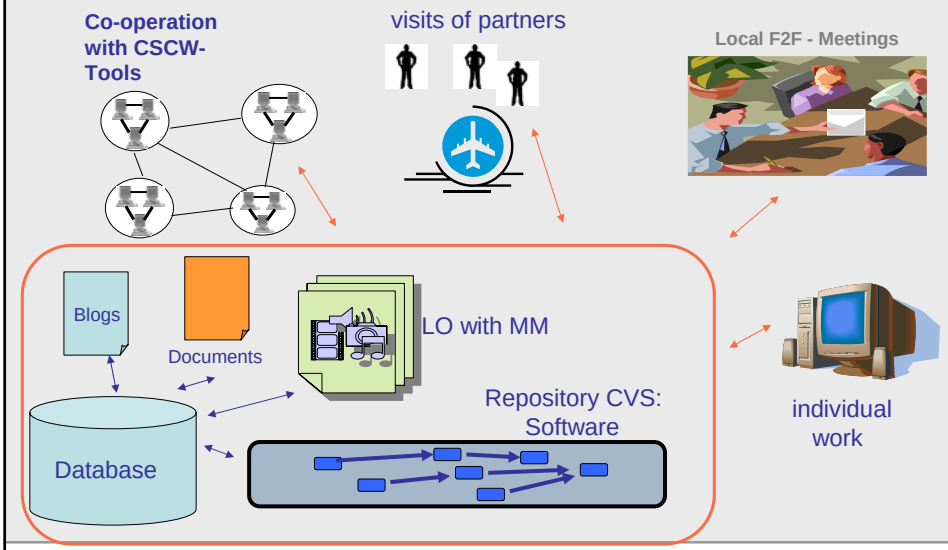
Source: Project LearnKnowMat

Knowledge Maturing Process Model



Source MATURE Project

Collaborative Structures



Outcomes – Formative Evaluation Concept

Product-related Evaluation

- Code review, Design analysis,
- Evaluation of the documentation
- Test of software's functionality
- Feed back of the Companies

Process-related Evaluation

- Student's Blogs, WikI
- Evaluation of videoconferences
- E-Mail exchange
- Rapid feedback
- Discussions with students / Examination (< 1.7)
- Feedback from the partners
- Analysis of atmosphere tenses / patterns of communication
- Dealing with diversity of competencies among students / partners

Technical Outcomes

- Mobile Delivery Server
- Flipcard-Player (WAP, Bluetooth and IRDA)
- Knowledge Database
  with interfaces for authoring processes in e-Learning
- SoA for Single Sign On (EIA)
- MetaXSa, DyoGeneS, Coma

Institutional Outcomes for CSE

- Industrial partners are provided with prototypes of software-products for professional use
- International co-operation between business and universities leads to a more practice oriented concept of teaching subjects of software-engineering
- The team is composed of interdisciplinary skills. Co-operation between students of different universities and faculties fosters exchange of ideas and diversity of knowledge
- The project team covers the whole spectrum from research to practice (constrains of practice: budget, time, existing structures)
- In comparison with traditional teaching concepts the students obtained a more decisive and managing role in the project
- Teachers got a more advisory role focusing on the project management and supporting the process of knowledge acquisition
- Project assessment methods like Wiki and Blogs edited by the students are used and improved

Individual Outcomes for Students

- Project with real-life situations was highly motivating for the students
- Professional competencies: e.g. skills in programming distributed and web-based systems, database management, mobile communication, screen design, project management
- "Continuous and Cooperative Self-qualification and Self-organization (CoCoSS)"; knowledge transfer in a team
- Methodological competencies: in project management, user requirement analysis and presentation skills are applied in the context of a real situation; needs of documentation;
- Social competencies: collaborative learning in a distributed team; using ICT for SD and collaboration; negotiating working conditions;

Case study II: Teachers Education as Lifelong Process

The Context of the Project

- Formal education (universities) should prepare for LLL – the crucial role of teachers
- Information competence - a set of knowledge, skills, attitudes and efficiency, essential for an individual to diagnose when and what information is needed, to localize this information, to assess it, to effectively process and use it, as well as to transfer it in a correct form with the use of properly selected tools
- Modular form of training is a source of flexibility of learning – not only for teachers
- E-learning understood as a complex and differentiated integration of ICT in education – a form and a tool of modern education system
- Modular systems + e-learning = modern form of teachers training

Main guidelines

- **An overall aim of the project:** adjusting teachers' education to main assumptions of the LLL concept
- **A specific aim of the project:** multi-contextual integration of information and communication technologies in preparing and training teachers
- **Partners:** (pedagogical) universities, institutions & companies of different countries
- **Duration time:** 3-4 years
- **Participants:** countries & comapanies interested in activities on LLL

Expected stages of the Project

- **Initial stage:** partners are to define their expectations, hopes, general and local assumptions of the project (f.e. number and range of a content of modules, discipline and subjects for curricula, e.s.o.)
- **Evaluation stage:** partners analyse the conception with regard to local needs and opportunities
- **Specification stage:** creating a document of specification
- **Realization stage**: execution of a defined scheme
- **Outcome and Presentation stage**: all outcomes of the project are presented during a final seminar with all the project partners

The AGORA Project on Lifelong Learning and Digital Solidarity

Generic Structure of the AGORA - Project

Atelier

International Co-ordination
Extracting generic Knowledge

- Need of sharing Experience, Knowledge
- how does LLL work in different Cultures….?

- Co-ordinating Activities, Coaching

Studio

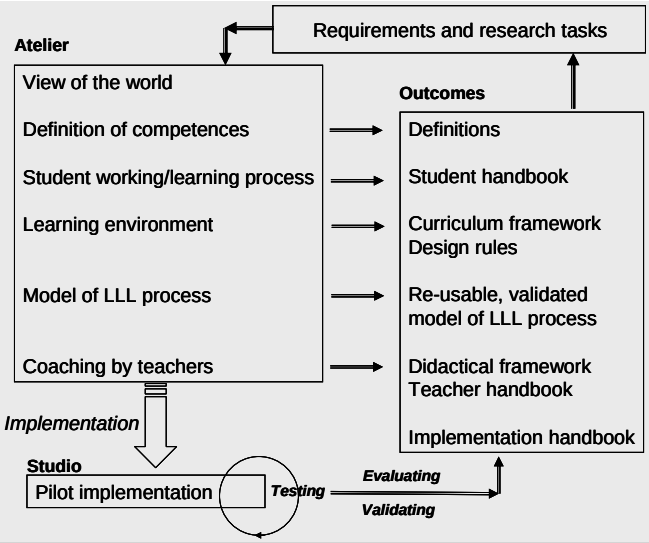
Local Project 1 contextualized

Local Project 2 contextualized

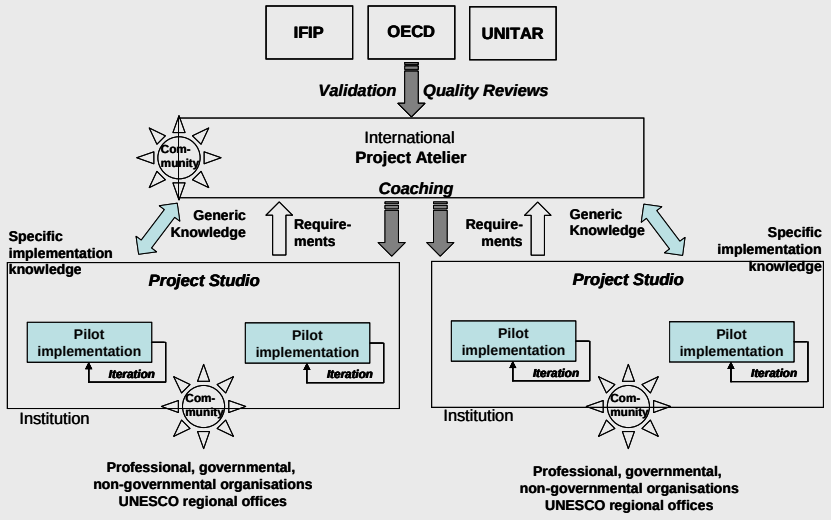
Local Project 3 contextualized

Local Project n contextualized

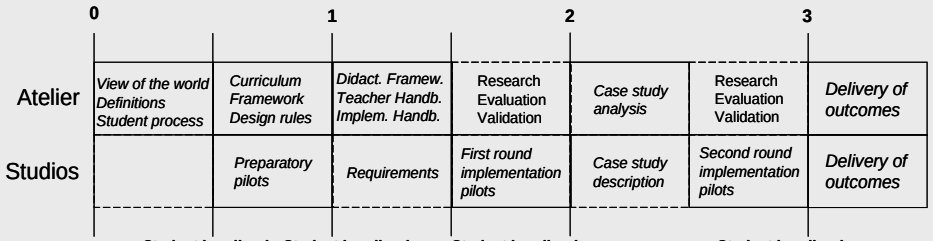
Project approach



Key Principles of the Project



Global Project Timeline



Student handbook ***First version***

Student handbook ***Second version***

Curriculum Framework
Design Rules
First version

Model of LLL process
First version

Student handbook ***Updated version***

Curriculum Framework
Design Rules
Second version

Didactical Framework
Teacher Handbook
Implementation Handbook
First version

Re-usable model of LLL process
Second version

Student handbook ***Updated version***

Curriculum Framework
Design Rules
Updated version

Didactical Framework
Teacher Handbook
Implementation Handbook
Second version

Re-usable model of LLL process
Validated version

Conclusions

- Higher education should be an integrated element of lifelong learning process
- International cooperation is crucial in the face of LLL concept
- Common work in atelier is necessary for generalization of forms and methods of LLL processes
- The role of studios is to apply general assumptions to local contexts and use local experiences to build general rules of permanent education
- Action is needed now – but some activities need funds

Thanks for your attention !