Learning Infrastructure

Project running from 1 May – 31 December 2013

Topics, goals and deliverables LET:

E-assessment portal
The portal will deliver status quo information (mapped to assessment processes) and best practice to support the decision-making process and will also help to disseminate the results of AAA projects further.

Local e-assessment information
Prepare, collect and structure local, institution specific and detailed information (scenarios in use, users, responsibilities, terms, rooms, security, legal issues, technology etc.) for use in the portal.

E-assessment tools
Create an e-assessment tool overview (with focus on technology) of tools used or in development at Swiss Higher Educational Institutions (HEI). The tool descriptions are linked to the scenarios (see below) and are published on the e-assessment portal.

E-assessment scenarios
Deliver a structured e-assessment scenario overview with a focus on infrastructure, pedagogy and processes.

- Student hardware (scenarios with laptops and tablets and heterogeneous and not managed HW and SW): Manuals with technical details of how to use student computers with SEB, translated into several languages.

- Tablet scenarios (owned by students and owned by institution; managed or not managed SW environment): Description of concept for exams using SEB on tablet computers including analysis about which question types are more and which less suitable for use in exams on tablets. Manuals with technical details of how to use tablets with SEB and LMS exams.

- Public computer scenarios (with desktop and laptop computers; owned and managed by HEIs): Process description of exams with SEB on public computers.

- Third party application scenarios: Technical "how to" and process description regarding exams including third party applications with SEB. Use cases about which third party applications are used in which subjects at ETHZ.

- LMS scenarios: Details of configuration of the various LMS used for exams with SEB. Use cases about what kinds of LMS exams (question types, subjects) are used with SEB.
• Pedagogical approaches (didactic context of currently operational e-assessments, best-practice/state-of-the-art assessment didactics, learning and teaching didactics of corresponding lectures): Description of state-of-the-art scenarios in use at ETH Zurich.

**E-assessment community**
Community building around the portal and the local sites will be supported, input and feedback collected and contributions to the discussion structured, making the information more valuable to participants and other interested parties. Community activities will be organized (as workshops and meetings) and linked to the portal.

**E-assessment field tests, dissemination and rollout**
Conduct further testing of existing systems and develop rollout scenarios. System tests under novel conditions, with not-yet-tested scenarios, or together with new institutions (including on-site support), in order to enhance stability, security, usability and improve functions in view of further dissemination and centralized services:

• SEB: Collect more practical experiences in real exams at different institutions. Conduct exams using VDI in combination with SEB.
• Tablets: Use assessment environments on tablets and practical experiences in real exams at different institutions.
• Student hardware: Collect more practical experiences in real exams on private student laptops (possibly tablets) at different institutions.
• "Public" computers: Collect more practical experiences in real exams using "public" computer infrastructure in university rooms.
• Competence-oriented assessment pilot: Execute competence-oriented e-assessment scenarios and collect pilot experiences.

**E-assessment enhancement**
Improvements for rollout and enhancement based on feedback (already-performed field tests and upcoming tests):

• Usability/Design: Optimize system based on the results of field tests and other community input.
• Mobile/tablet version: Transfer of concepts and further development of mobile versions of exam systems.
• BYOD and LMS support: Adaptation and improvement for use of private student notebooks in exams and for LMS junction (additional LMS according to institutional demand).
• Virtual desktop infrastructure: Develop virtual desktop infrastructure (VDI) for use with SEB and third party applications, to enable/facilitate competence-oriented testing.
**Swiss e-assessment infrastructure**
Create and evaluate business models and corresponding Service-Level Agreements (SLAs) to assure administrative, technical, legal and monetary sustainability of e-assessment tools at Swiss HEIs.

**E-assessment deployment support**
Implement measures necessary for facilitated and sustainable deployment of systems to other institutions: Documentation, manuals (paper, video, tutorials, etc.), software installation_updates, central/distributed servers, translation of support documents and software interfaces (multilingual interfaces), preparing the systems for different assessment scenarios (VDI, students hardware), support and distribution channels/structures (AppStore, servers, code repositories), maintenance of systems and tools, administrative processes, legal documents.

**Competence-oriented assessments**
The Bologna process fosters a shift of the didactic paradigm at HEI to competence and output orientation. But the approach is still new and institutions lack experience, best-practice examples and models for a change towards competence orientation. Due to the novelty of the topic future perspectives and further development are yet to be clarified.

The main deliverables are scenarios for competence-oriented assessments, blueprints and a report on the evaluation of adequate tools. A report on the general feasibility and the perspectives of competence-oriented assessments will be edited.

Overview of competence-oriented assessments at Swiss HEIs (Bologna conform testing/exam methods and infrastructure)

- Overview of competence-oriented assessment requirements and preconditions. Relation to Bologna process and competence grids.
- Collect requirements and needs, elaborate scenarios for formative assessments in social and collaborative learning contexts.
- Requirement analysis for VDI scenarios.

Advanced competence-oriented testing

Prepare competence-oriented assessments with VDI. Consolidate results and information on competence-oriented exams already performed. Recommendations for further steps and perspectives for further development in e-assessment.