Personal Competence Management in Learning Networks

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In this keynote

- Creating a new generation of learning environments supporting:
  - Lifelong learning
  - Combining informal learning & formal learning
  - Personal Competence Development (employability)
  - Open educational resources
  - New forms of assessment (eg. of Ass. of Prior Learning)
  - Automation to ensure efficiency & accessibility

- Research & Development takes place in the Educational Technology Expertise Centre (ETEC) of the Open University of the Netherlands and in various EU projects we are in. Most notably TENCompetence
The TENCompetence Project

• Budget 14 Million Euro; staff size 150
• Aim: The development of an open source infrastructure to support lifelong competence development
• 15 core partners and a network of associated partners
• 4 major experimental areas:
  1. Digital Cinema
  2. Health Care
  3. UNESCO-IHE Water Management (Nile Region)
  4. Lifelong Learning City (Antwerp)
• Additional pilots from associated partners
Focus:

• Support **individuals** to further develop their competences during their course of life

• Core questions people can have during life:
  – I want to (further) develop a specific competence
  – I want a better job position
  – I want a new or different job
  – I want to keep my competences up-to-date

• Related to lifelong learning and employability

• Take the whole spectrum of learning into account: formal, informal and non-formal learning; Integration of Learning, Working, Living
The solution we are developing...

Personal Competence Management in Learning Networks

- Theories
- Methods
- Standards
- Systems
What does this mean?
Assume:

A Learning Network

(e.g. a network of professionals aimed at the exchange of knowledge and competence development in the field)
Also assume a “competence” as a node in the network.
Each competence has one or more “assessments” connected to it.
Each competence is connected to \( N \) “learning actions”

- course
- programme
- learning activity

Assessment

Actions (formal, informal from different institutes and persons sharing these actions)
Each action is connected to N learning resources and/or services

Actions

(formal, informal from different institutes and persons sharing these actions)

Competence

Assessment

course

Program me

Learning activity

Forum

Learning Object

Learning Object

Chat

Learning Object

Wiki

Video Conf.

Blog

Learning Object

Learning Object

Learning Object

shared resource
Everybody can add a new competence
My personal “position” in the Learning Network

My current job

My Goal: Learning for a new function/job

Learning Network X

my learning path

Profile: X

Profile: Y

Profile: K

Profile: Z
My Personal Development Plan

Agenda

Assessment competence 1

Assessment competence 2

Assessment competence 3

my learning path

learning activity Y

learning activity Z

course X

My Personal Development Plan
Research Issues in a Learning Network

• What is a competence (in an formal sense)?
• How to measure my “position” in the network?
• How to create an individualised learning path?
• How to provide support in a learning network?
• How to create and share learning actions (courses & learning activities) connected to each competence?
• How to integrate this all to create an environment for personal competence management?

• …
Some answers....
Definition of Competence

• A *competence* is the *estimated ability* of an actor to deal with *critical events, problems or tasks* that can occur in a certain situation (at work, at home, on the road, etc.)

This estimation can be based on:
- self assessment
- informal assessments by others
- formal assessments by others
Position in a learning network

• Research to the use of language technologies (LSA)
  – All the materials in a domain => result is vector representation
  – Production of a learner (e.g. a report) => also vector representation
  – Compare and position learner in the domain
  – Also used for essay assessment
Individualised Learning Paths

• Open standards for Learning Paths
• Simulation model of recommendor system
• Collaborative filtering & Ontologies
How to provide support

• Various aspects (stimulate social interaction, finding peers to help you, gaming, social exchange theory).
• Also experiments with LSA to find a peer who can answer your question in the network
How to create and share learning actions

• IMS Learning Design
• Design tools
• Authoring tools to edit sets of learning activities
• Repositories for learning designs (exchange)
• Runtime environments for learning design based courses
How to integrate this all?

• Personal Competence Management System
• **NOT** personal in de sense of 'alone, individual'
• **Owned** by a person (compare: Personal Computer), not by an organisation (company, school, university, etc.) to manage your personal competences during lifetime in many different institutions and informal learning events.
• Can be used **in conjunction** with organisational systems (eg the LMS of a university, HRM system of a company, knowledge management systems).
• The PCM can be downloaded and used by anyone to develop their competences. When used they can share and connect to all others using the infrastructure developed in the TENCompetence project.
High level overview of connected services

- **Portfolio Services**
- **Learning Design & Assessment Services**
- **Knowledge Resource Sharing & Management Services**
- **Learning path & Navigational support Services**
- **Community Services, Learning Support Services**
- **Competence Observatory**
- **Personal Competence Manager**

*Image of a network diagram with the above services connected to a central node labeled 'Personal Competence Manager'.*
Plan for Basic Guitar Skills

Description
I have used these actions to learn basic guitar skills. I started with the interactive lessons. Maybe you can also start with the small self-test I have made in basic guitar skills to see where you are.

Route
Show me what to do next

Options
Create new plan
Select plan
Edit description
Break synchronization
View rights

Synchronised Plan (Bas may change)
Planning

• In the second year of the process....

• When you are interested to participate in development or in pilots, please contact me (rob.koper@ou.nl) or the website tencompetence.org

• Remember: everything will be freely available for everyone to use (and to improve)!

• The first release is planned before summer this year (Meeting in Barcelona, June 2007)

• The final release is planned for December 2009, also the experiments and pilots in the other sectors will be finalized by then.
Some consequences

• In future we will stimulate people to use the personal competence development tools:
  – Make persons in society aware of their own responsibility of planning their career/competences independent of an institute: mixing various formal and informal learning activities
  – Learn them how to use these tools (and methods) effectively
  – Deliver services for personal competence management (curricula will be available through these tools, using various competence profiles)
  – Provide connections to our infrastructure (student data, course data, etc.)
Thanks!

References:
- www.tencompetence.org
- dspace.ou.nl