Learning Networks

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OpenUniversiteitNederland
Educational Technology Expertise Center (OTEC)

- Instructional Design
- Multimedia
- Learning Networks
- Master programme “Active Learning”
A Learning Network is a network of persons who create, share support and study learning resources (‘units of learning’) in a specific knowledge domain.

Objective:
Develop a coherent set of e-learning technologies to establish learning networks for lifelong learners.
Key Issues

• Put the lifelong learner center stage and *empower* them with tools to *plan and support* their learning
• Connect tools and methods from different areas (e.g. HRM, KM, Learning, CoP)
• Support for formal education, non-formal (further) education and training and informal learning
• Use and develop open standards and open source software
Core themes

1. Learner Positioning in Learning Networks
   Support learners to assess their existing competences and to map them to a position in a learning network

2. Make & Use Activity Nodes in Learning Networks
   Connect, activate, and support learners to self-organise (social software, learner support)

3. Navigation in Learning Networks
   Support learners with collaborative filtering techniques to navigate in a learning network
European Projects

examples

- aLFanet (Adaptive, standards-based elearning)
- UNFOLD (Standards dissemination & CoP in particular IMS-LD)
- COOPER (Project based learning)
- MACE (Architecture)
- PROLEARN (Network of Excellence)
- TENCompetence (IP)
- LTfLL (Language Technologies for Lifelong Learning)
- idSPACE (collaborative, distributed product innovation)
- Grapple (Adaptive learning)
Standards

- CopperCore (IMS-LD open source reference player)
- Publications
TENCompetence
TENCompetence Project Aim

• **Building The European Network for Lifelong Competence Development**
  - To be used by any individual, school, team or organisation that has a need to (further) develop the competences (of their members) in a formal or informal way
  - The system will integrate and develop open source software based on the principles of web services/SOA

• Some facts: coordinator, Integrated Project, 14 partners, 4 years, EU-contribution 8.8 M

• For more see: [www.tencompetence.org](http://www.tencompetence.org)
Core use cases

- Want to improve a specific competence
- Want to study for a new job (or 'competence profile')
- Want to keep up-to-date in my current competence profile(s)

Supporting Use Cases:
- Want to explore the learning resources, courses, people, etc. in a new field
- Want to assess my competences for a certain job (competence profile)
- Want to reflect on my competences
Personal Competence Manager
Supporting the tutor or learner
ASA
Question-Answering

Objectives
• Connecting and organizing the learners (proactive sharing)
• Creating sustainable support facilities (effective support)

Why question-answering
• High frequency
• Disruptive
• Important for the learner
Essence of the approach
Main steps

1. A student poses a question.
2. The system determines:
   • text fragments to help answering the question;
   • the topic(s) of the question;
   • the most suitable peer-learners.
3. The system sets up a wiki with the question, the text fragments and guidelines.
4. The selected peer-students receive an invitation to assist.
5. The questions poser and his peers discuss and phrase an answer in the wiki.
6. The question poser closes the discussion and rates the answer.
What is a Question?

Question:
A few days ago I was busy chatting and in the chat room all my fellow chatters had beautiful avatars. I am wondering how you get these avatars and also if you can make them yourself. Do you know of software in which one can design his own avatar?

The course contains the following text fragments that may be of relevance in answering this question. Click at the corresponding links to see the text fragments:

Text fragment 1
Text fragment 2
Text fragment 3
The main steps methods used

Text fragments to help answering the question:

- *Latent Semantic Analysis* to select the text from the studied material

The topic(s) of the question:

- *Latent Semantic Analysis* to identify the topic(s)

The most suitable peer-learners, a selection based on a weighted sum of criteria:

- content competency
- availability
- eligibility
Minicursus Internet+

Calendar

<< March 2007 >>

Sun Mon Tue Wed Thu Fri Sat
1 2 3
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31

Student Question interface

Your questions
Click here to pose a new question

Your question
I have just read about chat-groups. How can I ....
Answer-Wiki
To the Answer-Wiki
Closed

Your answers

<table>
<thead>
<tr>
<th>Status</th>
<th>Question</th>
<th>Answer-Wiki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready</td>
<td>I have just read about chat-groups. How can I ....</td>
<td>To the Answer-Wiki</td>
</tr>
<tr>
<td>Busy</td>
<td>What is the advantage of the Opera-browser above ...</td>
<td>To the Answer-Wiki</td>
</tr>
<tr>
<td>Busy</td>
<td>What is an internet browser and html?</td>
<td>To the Answer-Wiki</td>
</tr>
<tr>
<td>Ready</td>
<td>Recently, I noticed that everyone in my chat-box ....</td>
<td>To the Answer-Wiki</td>
</tr>
</tbody>
</table>

Click here for the Answer-Wiki
Click to close and rate this question
Experiment data

- Learning network with 11 topics; 8 weeks
- 110 students in 2 groups: 78 active (40 : 38)
- 101 questions
- 82 resolved (10 under discussion; 9 failed so far)
- 3.8 average answer rating (5-point scale)
- 47 students posed; 65 assisted; 68 involved in total
Experiment data

Experimental group outperformed control group on:
• Quality: Q-solved: 71% (42/59); 45% (19/42)
• Responsiveness:
  • Q-time: 5.6 days; 9.6 days
  • One invitations: 80%; 50%

Almost all respondents (n=57) agreed that answering a question is a good investment of time, motivations:
• “I am aware that other students also have questions” (n=24)
• “It improved my knowledge and understanding” (n=29)

Usefulness: 26 experimental; 17 control
Usability: 22 experimental; 16 control
Use it again: 25 experimental; 16 control
Related R&D to be started
LTfLL – March 2008

1. Establish a position for the learner in a domain
   • analysis of learner portfolios
   • modelling conceptual development

2. Support and feedback during learning
   • analysis of interactions
   • analysis of textual output

3. Support of social and informal learning
   • knowledge extraction
   • ontologies + social tagging
   • support knowledge construction / negotiation
Questions

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