From planning learning paths to assessment: Innovations to the practical benefits of Learning Design

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Overview

• Context: TENCompetence Project
• Role of Learning Design in TENCompetence
• GTI innovations to the practical benefits of LD:
  – Graphical planner of personal learning paths
  – Flexible support of (IMS) LD at runtime
  – Test-based assessment using (IMS) QTI
• Conclusion
TENCompetence Project

- IST/TEL Integrated Project – Sixth Framework Programme, EC
- December 2005 – November 2009
- 15 core partners + Associate Partners
- Aim: to build a technical and organizational infrastructure for **lifelong competence development**
TENCompetence Focus

• Supporting **individuals** in development of their competences during the whole 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
  ...

TEN Competence
Building The European Network for Lifelong Competence Development
Role of LD in TENCompetence

- **Community:** A domain representing a certain profession. Users can collaborate within the context of a certain community.
- **Competence profile:** A set of Competences that define the minimum requirements for a specific function/job.
- **Competence:** 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, etc.).
- **Competence development plan:** (CDP; synonyms: route, learning path, curriculum, programme) An ordered set of activities and units of learning that have to be followed to attain a certain Competence.

(IMS) Learning Design
Competence Development Plan

Composed of

Activities or/and

IMS LD units of learning

May include

IMS QTI items (assessment)

Personal Development Plan tool (PDP) with a graphical planner

ReCourse editor (Creating LDs) with a plug-in for creating QTI items, allows addition of Widgets

SLeD player integrated with a Widget server, and an updated QTI engine (APIS)

Also: new QTI interaction type for graphical exploration

Also: flexible support of LD at runtime
Graphical planner (I)

- Provide a personalized view on all the available UoLs to support Learner’s planning of a CDP

- Use personalization services (positioning, navigation, preference, curriculum) developed in TENCompetence
Graphical planner (II)

Y-Axis Location:
• how close is the UoL to the learning goal
• how far is it from your current state
• how many others selected it at which point of time
• how many other UoLs are needed

X-Axis Location:
influenced by:
• how preferred is UoL
• how many others selected in a similar situation

Demo at http://upf.ernestoarroyo.com/Planner/
Flexible support of LD at runtime

- Developing templates that can be refined / particularized at runtime (enabling authoring at runtime)
- Flexibility desirable in general, specific requirements in:
  - Collaborative learning: group members dependence
  - Particular educational methodologies, e.g., dialogic learning for (non-formal) adult education (democratic participation even in the design of the learning process)
An approach to support flexibility (I)

- Dialogic learning and interactive groups: an IMS LD template integrated in runtime systems
- **Principles of dialogic learning** (Egalitarian dialogue, Cultural intelligence…) and **actual practice** in La Verneda School for adult education → input for a **metaUoL with seven possible activities**
- Usage: Any participant can
  1) Select “activity type”, (Negotiating, Dialoguing, Sharing, Discovering…)
  2) Define/configure the activity (description, tool, input/output artifacts)
  3) Perform the activity (with the rest of participants)
- metaUoL computationally represented with **IMS LD level C**
  (can be interpreted by any IMS LD compliant player)
- Tested with two trainers of La Verneda. Paper to be published at iJET
An approach to support flexibility (II)

Define activity

Perform activity
New QTI interaction type for graphical exploration

- New forms of interaction in IMS QTI (graphical exploration)
- Example implemented: Google Maps embedded in QTI items (edition and runtime)

Video:


Further info GTI work on QTI:
http://www.tecn.upf.es/~daviniah/upfqti.html
Conclusion

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• GTI is currently:
  – Finalizing the graphical planner (to be evaluated in September/October)
  – Exploring new solutions to provide flexibility; planning new experiences in La Verneda
  – In the process of evaluating the use of Google Maps embedded in QTI items. Aiming at embedding other Web2.0 services in test items
Validation of TENCompetence

• An increasing number of **associated partners** have enlisted to help develop, demonstrate and pilot the project outcomes.

  Participation is invited from all interested parties particularly SMEs.

• **Pilot proposals** are welcome
Contact

• Project website
  www.tencompetence.org

• GTI website
  http://gti.upf.edu

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Thank you!