Learning pyramids

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Working Group 2.1 – Virtual Academy

Policy issues
- The movement from discrete computer assisted learning (CAL) tools towards an integrated virtual learning environment.
- Technical, political, legal, organisational and cultural problems.
- Copyright and accreditation problems
- The role of the lecturer and human communication in general.

Chair
- Prof. Esben Munk Sørensen (Denmark), e-mail: ems@hau.dk

Working Group 2.4 – Knowledge in SIM

Policy issues
- To integrate the resources of the Commissions 2 & 3 using the experiences of professionals in knowledge transfer and the know-how of spatial information management (SIM).
- To analyse present status and trends of Information/Knowledge Management.
- To outline the implementation of the results of Information/Knowledge Management in the Spatial Word.
- To define the necessary elements and routes of professional development in the rapidly changing area of SIM.

Chair
- Prof. Bela Markus (Hungary), e-mail: mb@geo.info.hu
• Data are simply pieces of information with no context.
• Data that can be viewed in context becomes information.
• Information that is analysed and can be applied is knowledge.
• When this knowledge is distilled, organized, stored and redeployed according to specific user needs, then a corporation is employing Knowledge Management.


In Hungary educational institutions have multiple reasons for loss of essential knowledge: experienced teachers and tutors retire or change jobs.

By providing access to the global knowledge base, the consortium members become more effective and competent.
**Staff**

- **Management**
- **Professional staff**
- **Technical – Administrative staff**

**Tasks**

- *to answer*
  - why?
  - what?
  - when?
  - by whom?
  - how?
  - where?
  - who shall learn?

**Why?**

- Human resources produce more profit than any other investment

**What? Fit for use**

**Who? - Target**

- whole STAFF
- potential USERS

**When?**

- HALF-LIFE PERIOD OF KNOWLEDGE IN INFORMATION TECHNOLOGY IS 18 MONTH
  - "...more or less constant training of staff"

- LIFE-LONG LEARNING
By Whom?

- SELF-LEARNING
  - TUTORIALS
  - CBT
  - RESEARCH
- INTERNAL
  - CORPORATE CULTURE
  - WORKSHOPS
  - EXCHANGE
- EXTERNAL
  - COMPANIES
  - ACADEMIC

Workshops, Seminars, Conferences, Internet, Intranet, Virtual meetings, Videoconferences

How? - CPD models

- Conferences
- Workshops
- Lectures
- Study for qualification
- Forms of CPD
- CBT
- Structured reading
- Preparation of papers
- Research

Forms of CPD
- CB
- ICT
- Learning

4C

- Communication
- Co-operation
- Competition
- Co-ordination

Global market

- Markets
- Information
- Users
- Universities
The Three Generations of Distance Education: From Centralised to Decentralised Institutional Infrastructures

1st Generation
- Correspondence
- Single-mode
- No study centres

2nd Generation
- Individual
- Single-mode
- Flexible student support and study centres

3rd Generation
- Networked
- Dual-mode
- Pedagogy development and support centres

Lesson learned #1 - Learning resources > Active Learning > Knowledge, skills

- Metadata: exist, fitness for use, available, accessible, format

Lesson learned #2 - How to deliver? - Evolution

There are three main levels of metadata:

- **Collection level metadata** provides the user with a quick look at the learning resource. The user will be able to gain an overview of the contents and scope of the data set.
- **Dataset level metadata** provides a fuller picture of what the learning resource will contain, describing the pedagogical attributes, the lineage (history) of the data set etc.
- **Feature level descriptions** provide very detailed descriptions (e.g., literature, scenarios, review questions).
**Changing roles of a teacher**

- Support in ICT
- Support in guidance and counselling
- Online Teacher
- Learning Materials Producer
- Face-to-Face Teacher
- Learning Support
- Support in production
- Support in administration

**Lesson learned #3 - How? Support vs. Content**

- Course Management
- Multimedia Computer-Based Training
- Resources, Databases
- Tutoring Support
- Special Interest Group

**VirtuaaliOTE project, Listenmaa, Häme Polytechnic**

**Lesson learned #4 - How to develop? - Knowledge pool**

- File > Database
- Textbook > Pool of learning units

**Lesson learned #5 - RAD ... PPT - HTML**

- Spaghetti?
- Topological metadata base – under development
- Learning path
  - Overview
  - Detailed
  - Full

**Learner centered environment**

- Call center
- Administration
- Knowledge base
- Virtual library
- Club

**Topology?**

- Spaghetti?
- Topological metadata base – under development
- Learning path
  - Overview
  - Detailed
  - Full
Lesson learned #6 - How to organize?
Knowledge map

Lesson learned #7 - Learning assistant

Distributed course delivery

Gateway - organizational functions
- Marketing - Strategic needs analysis
- Authoring learning objects (metadata)
- Gathering - Knowledge mining
- KB (Context) management
- Interoperability
- KB analysis, evaluation
- Sharing knowledge units
- Accreditation, recognition
- Support PoLs / students
- Knowledge management
- Collaboration, Bottom-up approach
- Platform independency

Gateway functions

Looking back - ODL Trends
- 1994 - paper based DE
- 1996 - digital materials (floppy)
- 1998 - multimedia (CD)
- 2000 - Knowledge pool - Internet
- 2002 - Educational portal - services
- 2004 - Knowledge management
- 2006 - mlearning
### Bologna Objectives

- Adoption of a system of easily readable and comparable degrees;
- Adoption of a system essentially based on two main cycles, undergraduate (bachelor – BSc) and graduate (master – MSc);
- Establishment of a system of credits – such as in the European Credit Transfer System (ECTS) - as a proper means to promoting the most widespread student mobility;
- Promotion of mobility by overcoming obstacles to the effective exercise of free movement;
- Promotion of European co-operation in quality assurance with a view to developing comparable criteria and methodologies; and
- Promotion of the necessary European dimensions in higher education.

### GEO - Branches

<table>
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<tr>
<th>Branch</th>
<th>Start Year</th>
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<tr>
<td>Land Surveying</td>
<td>1972</td>
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<tr>
<td>Geoinformatics</td>
<td>2001</td>
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<tr>
<td>Land Consolidation</td>
<td>1975</td>
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<td>Land Administration</td>
<td>2001</td>
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### GEO - Changes

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<td>BSc in Lands (180 credits)</td>
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<tr>
<td>Geomatics</td>
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<td>Land Consolidation</td>
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<tr>
<td>Land Administration</td>
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</tr>
<tr>
<td>MSc Specialisations (120 credits)</td>
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<tr>
<td>Geoinformatics</td>
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<td>Land Development</td>
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<td>Sustainable, Environment specific</td>
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<td>Land Management</td>
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<td>Economics</td>
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IACS – Best practices
International Summer School
12 – 19 August 2005, Székesfehérvár, Hungary

IT Trends
- Analog > Digital
- Manual > Automatic
- Local > Global
- Data > Information
- General > Customized
- Product > Service

Recommendations
- Metadatabase – extension of FIG Educational database
- Workshops
  - Knowledge Management
  - Curriculum development and quality management
  - CFD experiences
  - eLearning – methods and platforms
- Joint (MSc) courses
- Networking structure
- International Summer Schools
- Joint projects
  - EEGECS
  - COST G9
  - MELA