FIG Publication: e-Learning in Surveying Sydney 2010

Liza Groenendijk and Bela Markus
Commission 2 - Professional Education

Workgroup 2.1: Curricula development

Chair: Bela Markus (Hungary)

- Changing profession
  - Surveying, Cadastre
  - Land Management
  - Participatory planning - GIS
  - Real Estate Management
- Technology changes
- Teaching methods
  - PBL
- Bologna changes
  - BSc / MSc / PhD / Professional masters
  - Credit Transfer
- Quality Management
  - Accreditation
- Training
  - Recognition

Workgroup 2.2: e-Learning

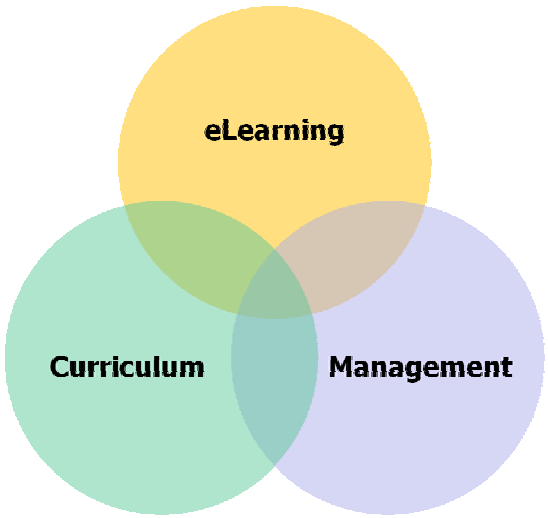
Chair: Liza Groenendijk, ITC (Enschede, Netherlands)

- Tools
- Innovations
- Portals
- Content development
  - Multimedia
  - CBT
  - Quiz
- Student support
  - Club
  - Library
- Communication
- Teamwork
- Metadata

Workgroup 2.3: Marketing & Management

Chair: Gert Steinkellner, BEV (Vienna, Austria)

- Perception of profession
- Awareness building
- Marketing
- Recruiting
- PR
  - Brochures
  - Newsletters
  - Web
- Networking
- LLL



Events

2007

- Hong Kong -13 - 17 May
- Prague - 7-9 June
- Latin America - Nov

2008

- Valencia – 18-21 February
- Enschede – 11-13 June
- Stockholm – 14-19 June

2009

- Vienna – 26-28 February
- Eilat – 3-8 May
- Hanoi – 19-22 October

2010

- Sydney – 9-16 April
- San Diego – mid July

e-Learning

Using IT in learning

Aims of FIG Publication on e-Learning

- to bring together the experiences and viewpoints within FIG on the role of e-learning in surveying education,
- to support FIG members and their affiliates and the surveying public in general in their efforts to further develop e-learning initiatives within their organisations.

Structure and contents

Preface
Introduction
1. The Concept of e-learning
2. The Nature of e-learning
3. E-learning technology and infrastructure
4. Effective e-learning
5. Role e-learning in surveying
6. FIG Policy on e-learning
7. Conclusions
APPENDIX – e-learning in Practice

Introduction

- The needs for e-learning in surveying
- Motivation for publication
- What to expect in this publication

Trends

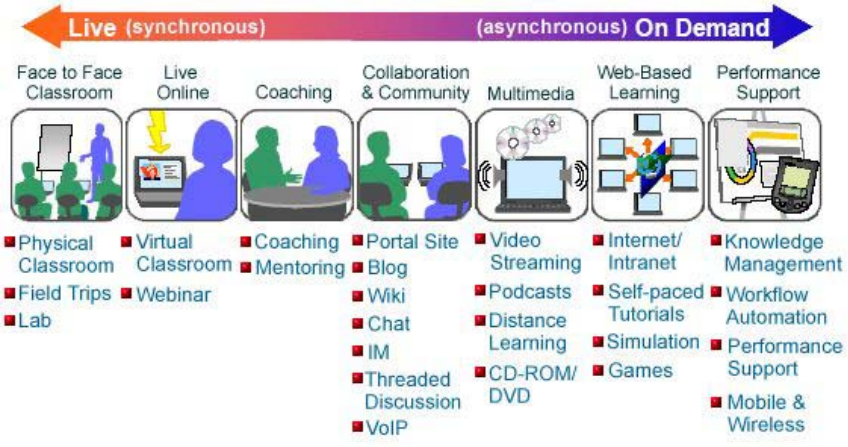
- Analogue > Digital
- Top-down > Bottom-up
- Manual > Automatic
- Product > Service
- Discrete > Continuous
- Local > Global
- General > Customized
- 2D > 3D
- Static > Dynamic
- Data > Information
- Technical skills > Complex services

1. The Concept of e-learning

- What is e-learning - definitions
- Pedagogy - models
- Knowledge management
- Alignment of policy, strategy and operations

The role of educators is changing

- they will become more and more facilitators, providing dynamic update of knowledge databases, transparent and clear syllabi, reading recommendations, etc., and offering guidance and motivation strategies for students who should get used to self-organized study approaches
- However, many universities "deliver course materials" rather than create knowledge-building communities, and stress memorization of facts, rather than having the learners actually use their new knowledge and skills as part of collaborative projects with other online learners.



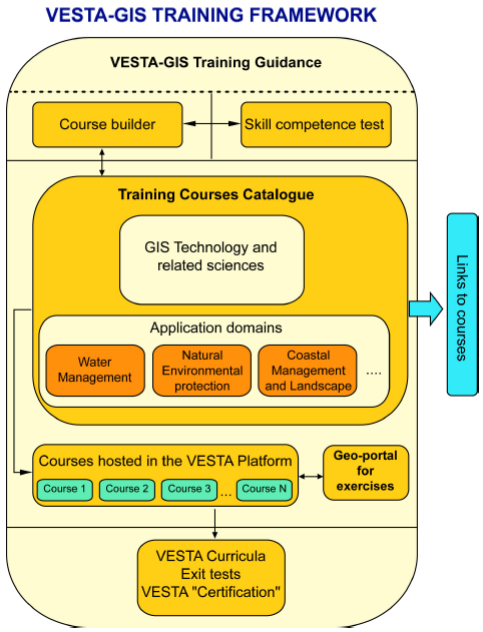
2. The Nature of e-learning

- Covering the „logical level”:
- Development of a knowledge base
- e-Learning 2.0
- Reusability
- Metadata
- Standards

Metadata - levels

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.
- Data set level metadata provides a fuller picture of what a learning resource will contain, describing the pedagogical attributes, the lineage (history) of the data set etc.
- Feature level descriptions provide very detailed descriptions (eg. literature, scenarios, review questions).



3. E-learning technology and infrastructure

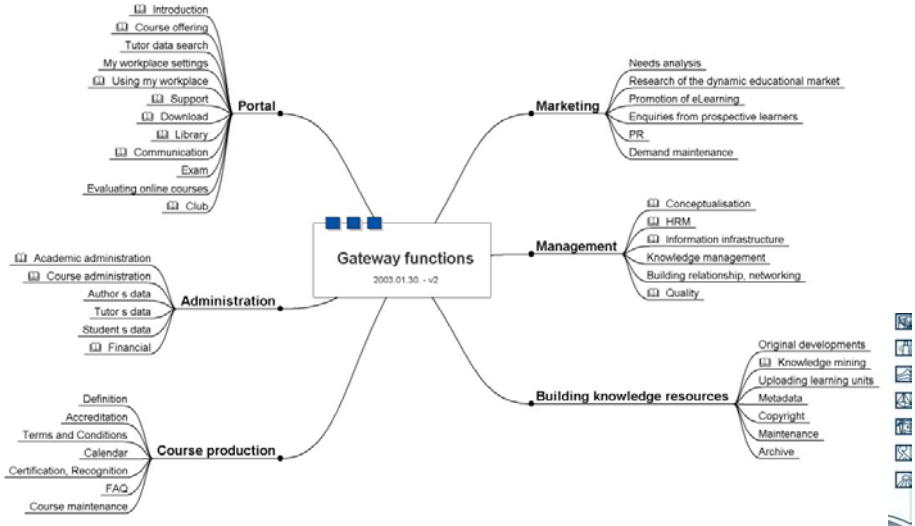
- Covering the „physical level”:
- Technology
- Virtual library
- Learning infrastructure
- End-to-end model for e-learning

Technologies used in e-Learning

- blogs
- classroom response system
- collaborative software
- computer aided assessment
- discussion boards
- e-mail
- Educational Management System
- educational animation
- electronic performance support system
- learning management systems
- simulations
- chat
- virtual classrooms
- web-based teaching materials
- web sites and web 2.0 communities
- wiki

Most eLearning situations use combinations of the above techniques.

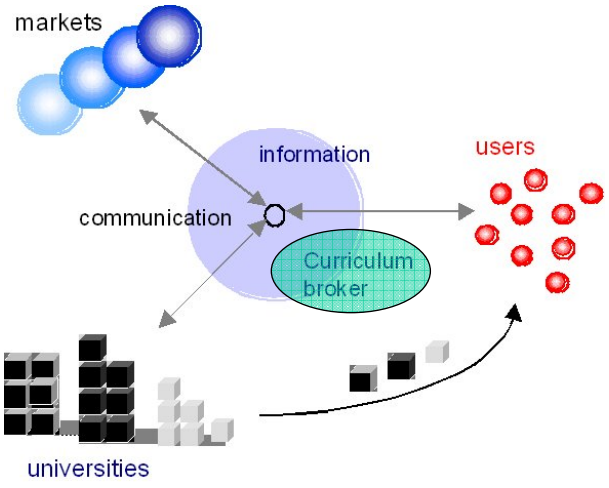
e-Infrastructure



4. Effective e-learning

- **Networking, organizational issues**
- **Business models**
- **Benefits**

Global market



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

5. Role e-learning in surveying

- **Awareness building**
- **Platform for collaboration**
- **Sharing good practices**
- **Creating a 'learning community'**
- **The growing importance of life-long-learning**

We need learning solutions that were:

- quick response time
- fast to develop, on low costs
- require short timeslots from learners without leaving their workplace
- increasing effectiveness

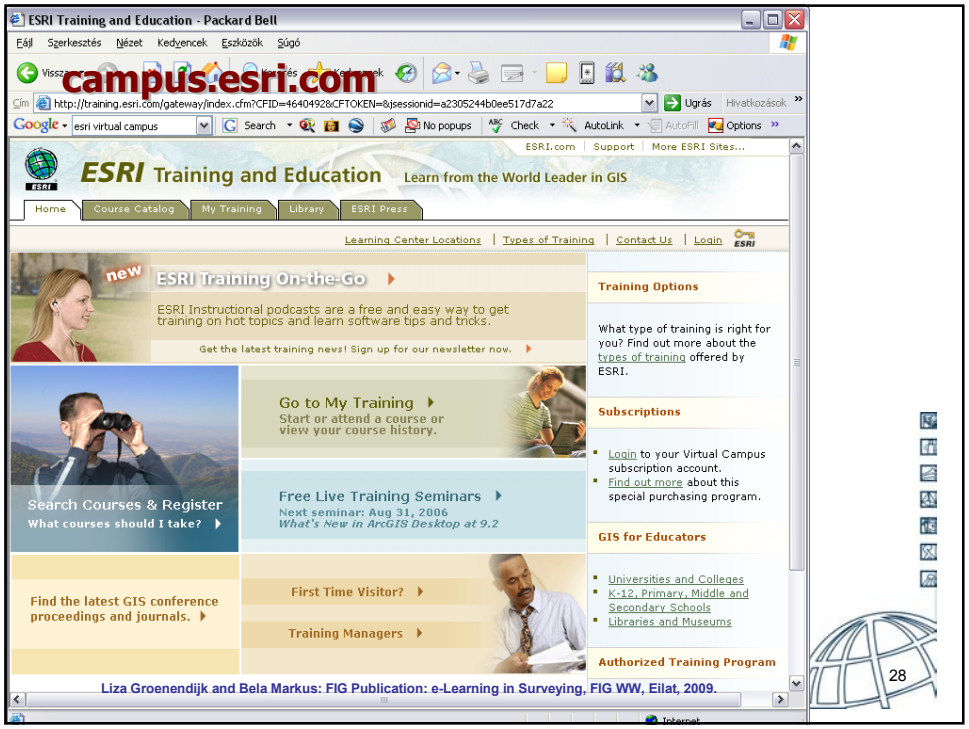
See also "Nano-Learning: Miniaturization of Design."

- I am a nano-learner. What does that mean? Each day, I learn several things in small chunks. Really small chunks. A 90-second conversation with an expert triggers a huge „a-ha". A few moments concentrating on learning how something works leads to a new micro-skill. What's more, I am not that unusual. Most people acquire most of their knowledge in smaller pieces.

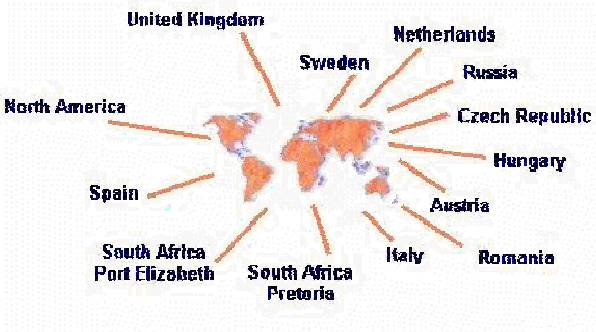
6. FIG Policy on e-learning

APPENDIX – e-learning in Practice

- **UNIGIS International Association**
- **ESRI Virtual Campus**
- **Australia, New Zealand, Africa**



UNIGIS


United Kingdom
Netherlands
Sweden
Russia
North America
Czech Republic
Hungary
Spain
Austria
South Africa
Port Elizabeth
Italy
Romania
South Africa
Pretoria

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Working procedure

- Writing team of Commission 2 members
- Division of tasks
- Additional support for the case studies
- Use of Wiki for development of publication
- Use of e-mail and Skype for communication
- One "life" writing session

Major deadlines

Phase	Output	Date
1	Concept proposal	FIG Working Week Eilat, May 2009
2	Draft	FIG Conference Hanoi, October 2009
3	Final Draft	End 2009
4	Publication	FIG Conference Sydney, April 2010

Writing Team

- Liza Groenendijk, The Netherlands, Chair Working Group 2.2, Editor
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Contributions

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- Adrijana Car, UNIGIS
- Jim Petch, UNIGIS
- Linlin Pei, Wiki administrator

Information sources

Analysis of relevant FIG papers of the last 5 years presented during FIG Working Weeks, Workshops and Seminars of FIG Commission 2, and additional relevant scientific and professional publications.

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