

## Promoting the Interaction between Education, Research and Professional Practice

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### International Trends in Surveying Education...

- Management Skills - versus specialist skills**  
 from traditional technical skills and push button technologies  
 to interpretation and management of data meeting the needs of the clients
- Project Organised Education - versus subject based**  
 from traditional technical skills (knowing how)  
 add-on approach  
 to management and problem solving skills (knowing why)  
 focus on "learning to learn"

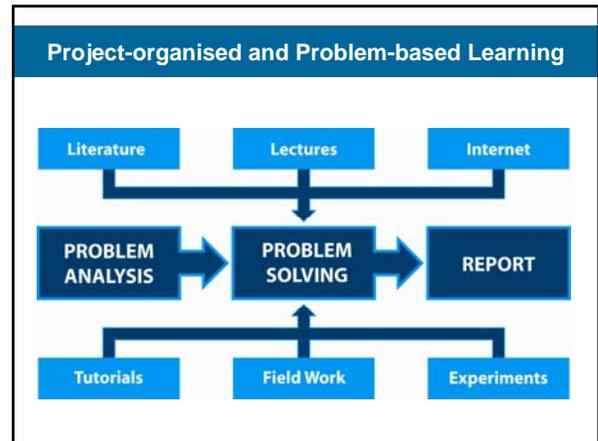
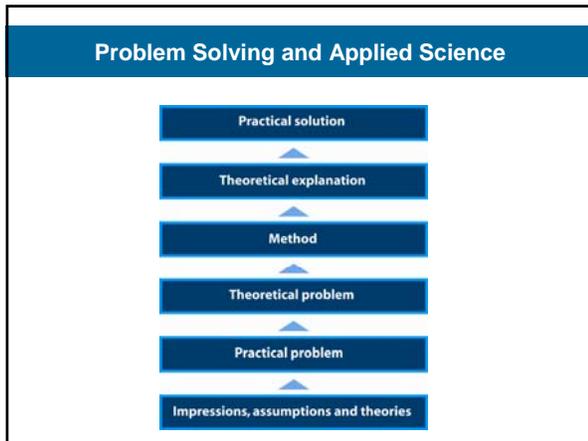
### ...International Trends in Surveying Education

- Virtual Academy - versus classroom lecture courses**  
 from traditional on-campus activities  
 to a more open role of serving the profession and the society
- Lifelong Learning - versus vocational training**  
 from learning for life through university graduation  
 to lifelong learning through CPD-strategies and distance learning

### The Global Challenges

- Technology development**  
 - GPS, GIS, Internet
- Micro-economic reform**  
 - privatization, decentralization, downsizing, quality assurance
- Globalization**  
 - from local to global  
 - events in one part of the world impact on people in other parts of the world
- Sustainable development**  
 - developments that effectively incorporates economic, social and environmental concerns in decision-making  
 - meet the needs of the present without compromising the ability of future generations to meet their own needs

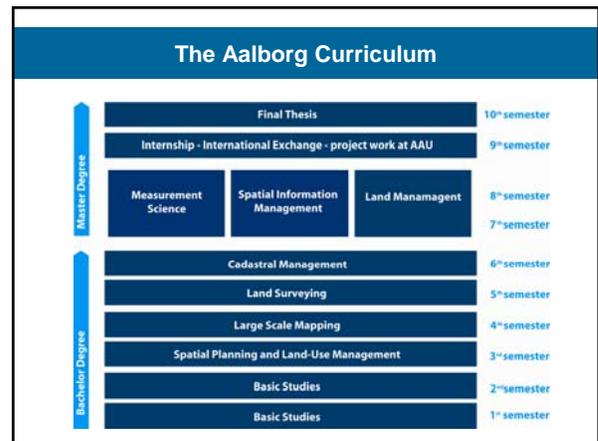




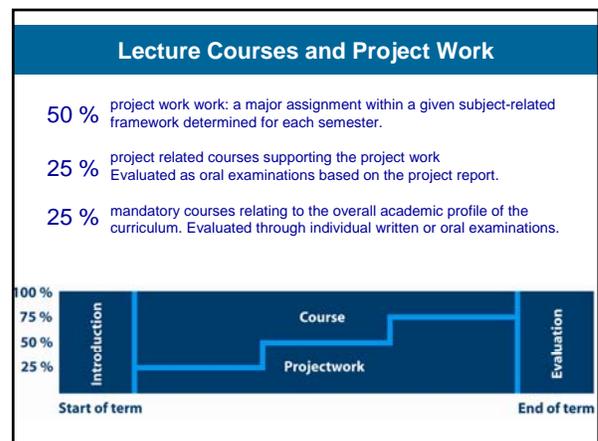
### Key Philosophy

Tell me and I will forget  
 Show me and I will remember  
 Involve me and I will understand  
 Step back and I will act

*Chinese proverb*



- ### The Aalborg Model
- **Problem Based Learning**
    - Based on real-life engineering problems
  - **Project Organised Education**
    - Project work supported by lecture courses
  - **Group Work**
    - groups of four to six students
    - supervised by the teachers
  - **Interdisciplinary Studies**
    - Integration of theory and practice
    - Focus on Learning to Learn



## Study Regulations

Describe for each semester

1. Aims and objective of the theme
2. The knowledge and understanding to be possessed by the students completing the semester
3. The focus and possible contents of the project work
4. The aim of lecture courses supporting the project work
5. The aim of lecture courses supporting the curriculum

This will form the basis for the examination by the end of the semester

## Examination

- Based on the project report
- Conducted as a group seminar
- Chaired by the supervisor
- One third of the program is examined by external examiners
- Presentation from each student (one hour in total)
- Questions/discussion (about three hours)
- Assessing methodological and professional understanding
- Individual marking of each student

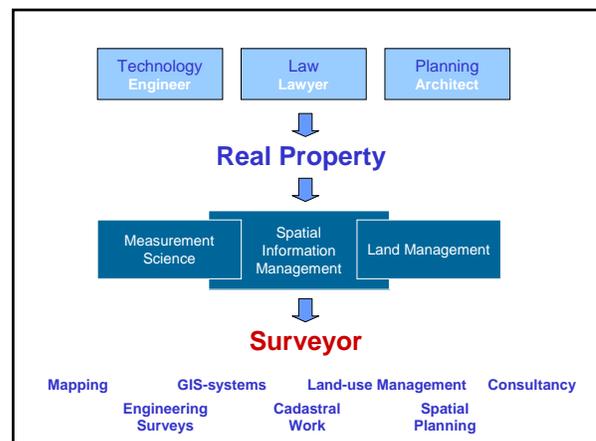
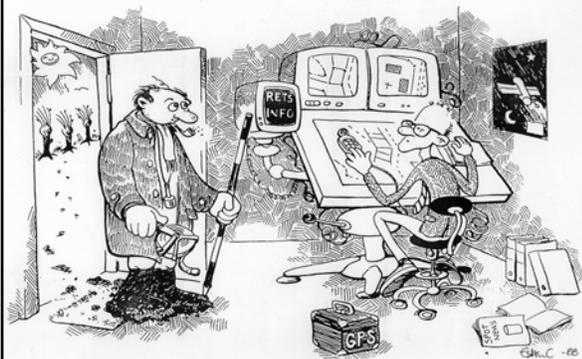
## The Role of the Teacher

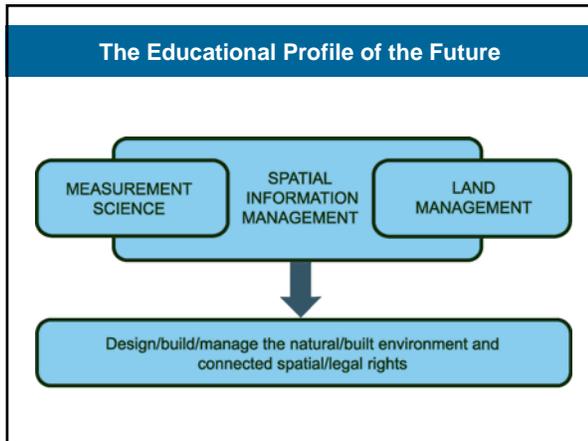
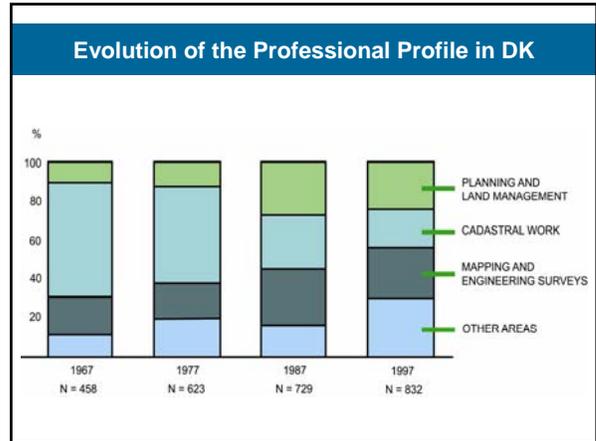
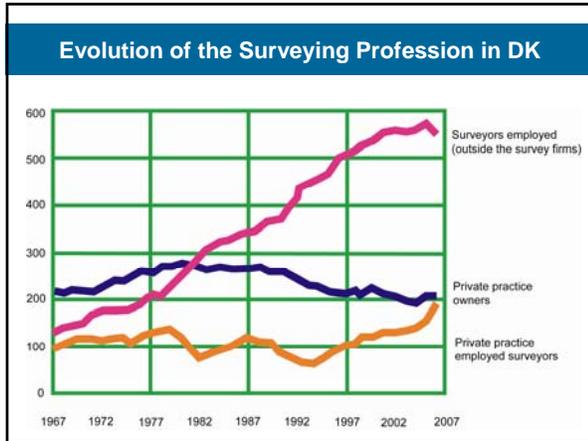
- A three-dimensional role:  
Lecturer (teacher), Supervisor (coach), Researcher (scientist)
- Focus on learning rather than teaching
- On-going renewal of lecture courses
- On-going and dynamic interaction between education, research and professional practice

## The Surveyors Profile



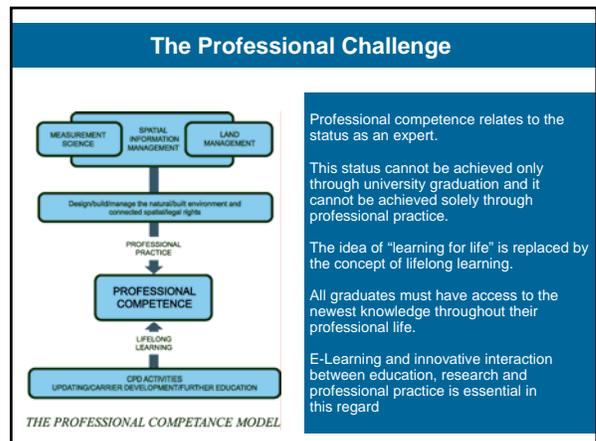
## Yesterday, Today and Tomorrow



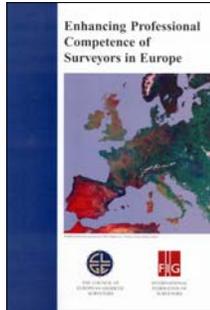


- ### The Managerial Challenge
- **Structural Changes**
    - Local level: Department and university
    - National level: Performance criteria, resources
    - International level: Agreements such as Bologna
    - Call for leadership, focus on the professional competence of the graduates
  - **Quality Assurance**
    - Internal monitoring
    - Quality management - Handbook of Quality Control
    - Quality Circle
  - **Accreditation, monitoring and assessment**
    - Evaluation towards minimum standard criteria
    - Monitoring of the labor market for the graduates
    - Establishing an Advisory Board

- ### The Quality Circle
- Evaluation of each lecture course
  - On-going evaluation of the semester
  - Final evaluation of the semester
  - Evaluation done by the students
  - Assessed by the board of studies
  - Improvements through preparation of the next year semester next
- Without assessment of the completed semester - the students cannot expect to commence on a well-planned and improved semester



## Enhancing Professional Competence



## Final remarks

- Curriculum development is a dynamic and ongoing process
  - The only constant is change
  - The educational base must be flexible
  - Educational, managerial and professional challenges
-  should develop ways and means to face these challenge.

## Key Message

Curriculum innovation essentially depends on an efficient interaction between education, research, and professional practice.



COMMISSION 2

**Thank you  
for your  
attention**