Problem Based Learning (PBL):
The art of ‘Minimal Teaching’

Erik de Graaff

Traditional Teaching

For starters: How to open a book!

teachers and TEACHERS

Teacher

School master

teachers and TEACHERS

Professor

Drill instructor
The art of teaching

A teacher …
... has superior knowledge about the topic
... tells stories and explains how things work
... shows you possibilities
... decides on content and time schedule
... gives turns questioning the students
... takes examinations and gives marks

The teacher takes the lead

Students expectations

• The teacher will tell me what to do.
• Asking questions shows what I do not know.
• I will get a passing grade if I do everything the teacher tells me.

Great minds on teaching and learning:

“I am convinced that the best learning takes place when the learner takes charge”

-Seymore Papert

Characteristics of a good teacher…

Looking back at your experiences with teachers in all possible situations. Try to focus on an occasion of ‘good teaching’.
• What was it the teacher did at this occasion?
• Was it in a school-like environment?
• What other people were involved?
• How could you create such a learning experience for other people?

Share your experiences with 3-4 colleagues
“I never teach my pupils, I only attempt to provide the conditions in which they can learn.”

- Albert Einstein

Carl Rogers on teaching at Harvard University in 1951

'I have come to feel that the only learning which significantly influences behavior is self-discovered, self-appropriated learning."

'It seems to me that anything that can be taught to another is relatively inconsequential, and has little or no significant influence on behavior.

Problem Based Learning (PBL) is a method aiming to let students take charge of their own learning

PBL is successful in higher education for the professions:
- Medicine and Health sciences
- Law and Economics
- Engineering and Design

An example: PBL in Engineering, the Aalborg Model

Students learn from working on real life problems as a team of engineers:
- Problem Based
- Project Organized
- Cooperation in small groups

Problem Based
Project Organised
Self-directed learning

Teach me... and I will forget

- Tell me and I will forget
- Show me and I will remember
- Involve me and I will understand
  - Attributed to Confucius and to Benjamin Franklin
- Step back and I will act
  - PBL addition
PBL is just a method

The real change is in the mind of the teacher

The human touch

The educational environment

Content oriented

Problem oriented

Self study

Student controlled

Problem Based Learning

Project-oriented Learning

Learning by doing

Problem oriented

Cases

Student controlled

Lectures

Teacher controlled

Exercises/tutorials

Practical exercises

Problem Based Learning (POPBL)

Problem-oriented Learning (PBL)

Learning by doing

Content oriented

Teacher controlled

Exercises/tutorials

Practical exercises

Lectures

Self study

Problem Based Learning (POPBL)

Project-oriented Learning (PBL)

Learning by doing

Still: old habits are strong

You can also turn the pages with your left hand

The challenge for all teachers is

• to activate students
• to stimulate them to think for themselves
• to help them to become independent learners that do not need the teacher any more for support, but rather can utilize the teacher for enlightenment

By contrast: a drunk uses a lamppost for support rather than for illumination

Questions?