



# Introduction to Problem Based Learning







## Maastricht University School of Business and Economics

- The youngest university in the Netherlands
- Triple accreditation
- International student population
- Unique educational approach:  
Problem Based Learning

## PBL in short

How?

Why?

What?

- Small-Group Work
- Cases, Assignments, Workshops, Presentations, Papers, Reviews
- Leadership, Critical Thinking, Independent Learning



of a problem:



## Labour, Welfare & Health

For more than fifty years the Lee Company of Merriam, Kansas, did a good steady business. In the 1960's and 1970's, Lee Riders were fashionable among women as well as men. The brand was so fast enough. Recently, however, ten years ago, Lee's international sales have increased. Furthermore, Lee's international sales demand in foreign countries.

## Brand & Image



uggling to  
nment.

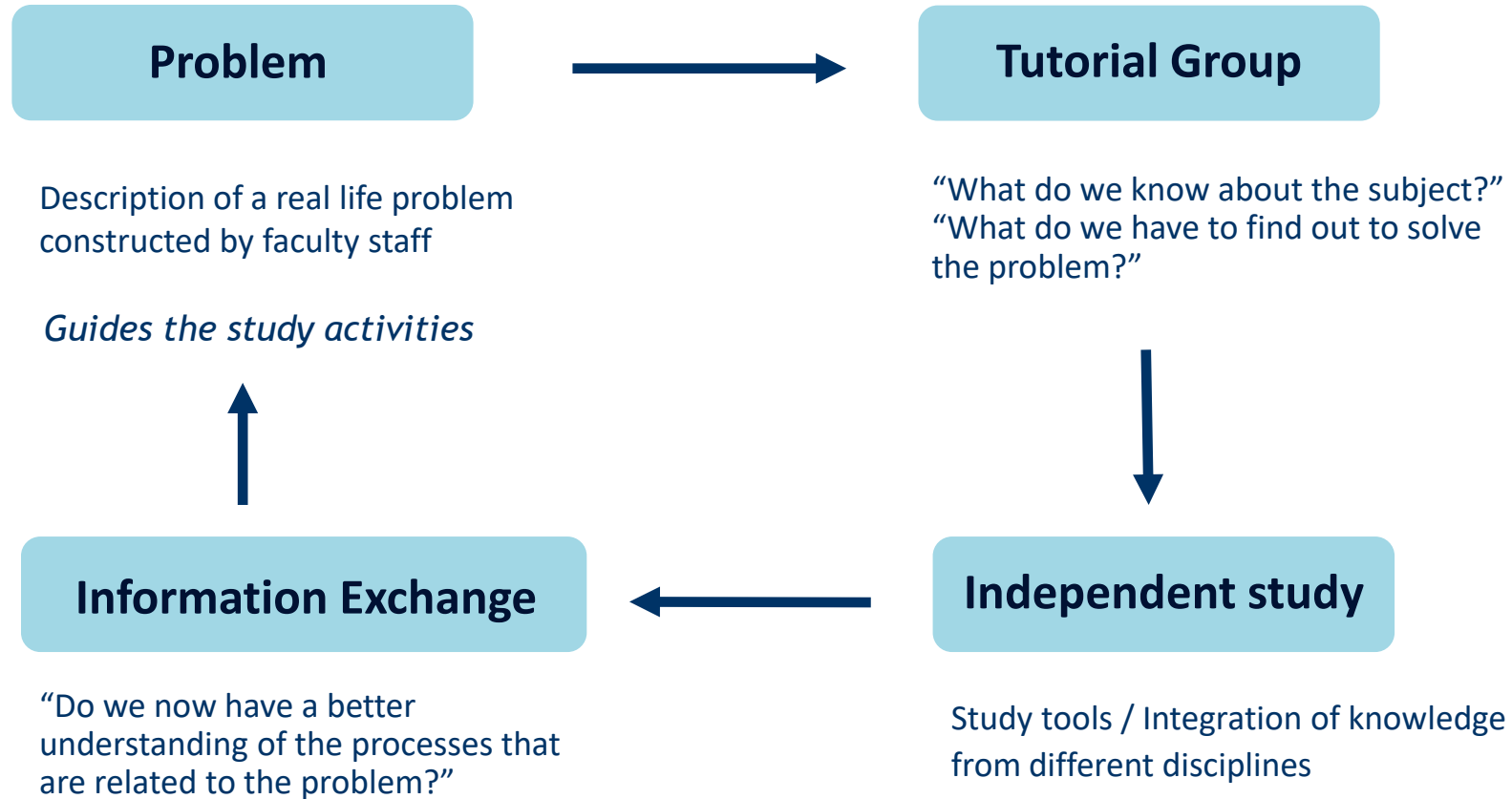
ould do?

## Competition & Markets



## Pollution & Environment

# How?



## Example process

Step 1: Read: clarify terms and concepts

Step 2: Problem definition

Step 3: Brainstorm

Step 4: Systematic inventory

Step 5: Formulate learning goals

Step 6: Self-study: solve learning goals

Step 7: Report and synthesise





## Other activating methods

- Project work
- Facilitations/Presentations
- Discussions
- Group work
- Role play/Simulations
- Self-study (reading assignment) and post-discussion

I will only intervene when absolutely necessary

**Tutor**

**Discussion Leader**

I lead the discussion and make sure that everyone participates

I take notes and make sure that everything is documented

**Secretary**



# Role of the tutor

## Content-related

- Use of expertise
- Stimulating critical evaluations of ideas
- Non-directive questions (!)
- The white-board as tool

## Process-related

- Keeping an eye on learning process and social interactions
- Stimulating reflection on the process (e.g., evaluation at the end of the training session)

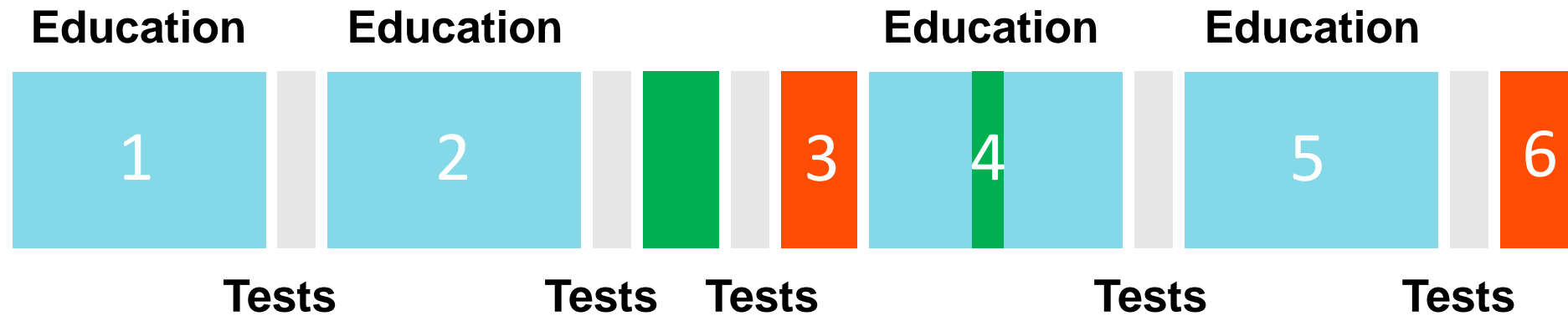
## Supportive/creating a psychological safe environment





# Role of the student

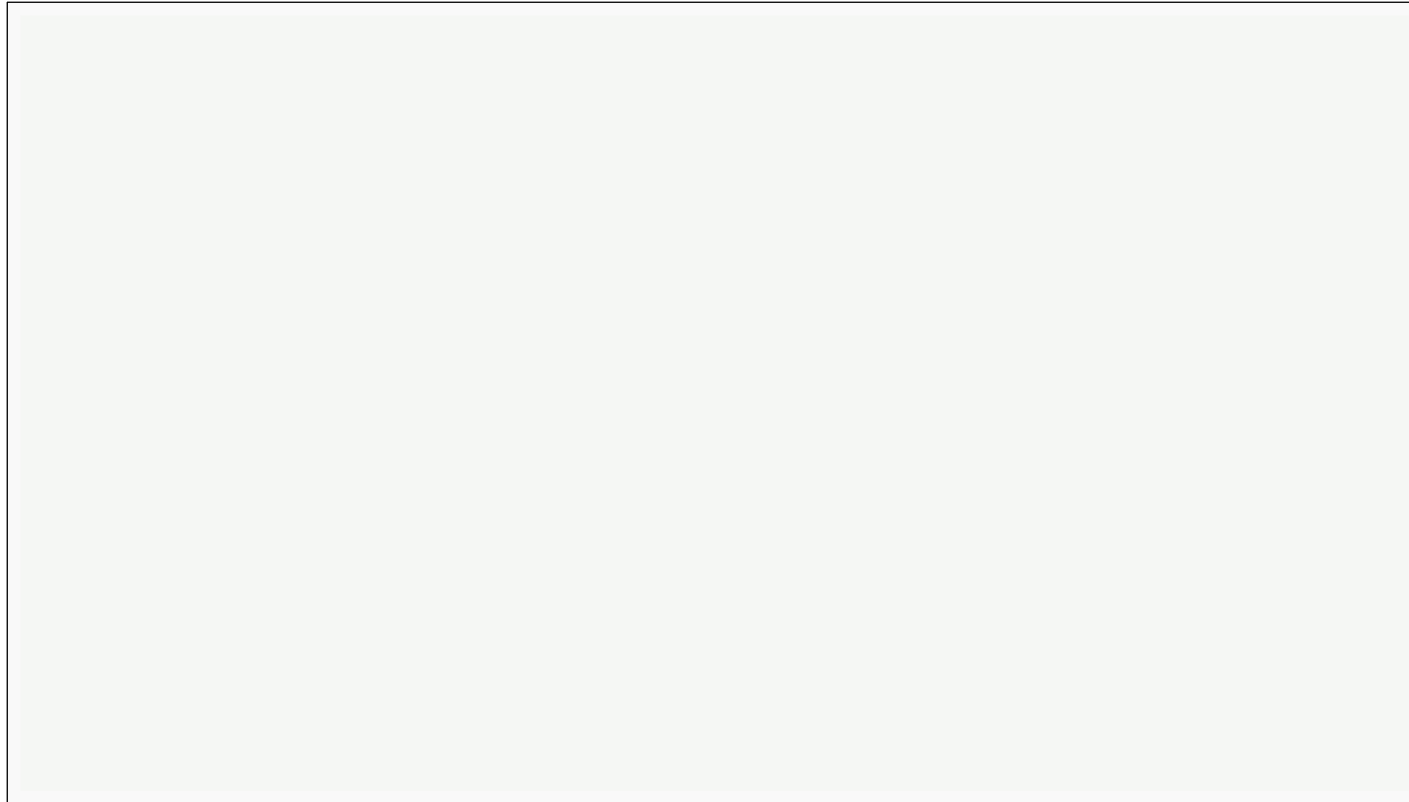
## **STUDENTS' DIFFERENT ROLES**

# Year schedule

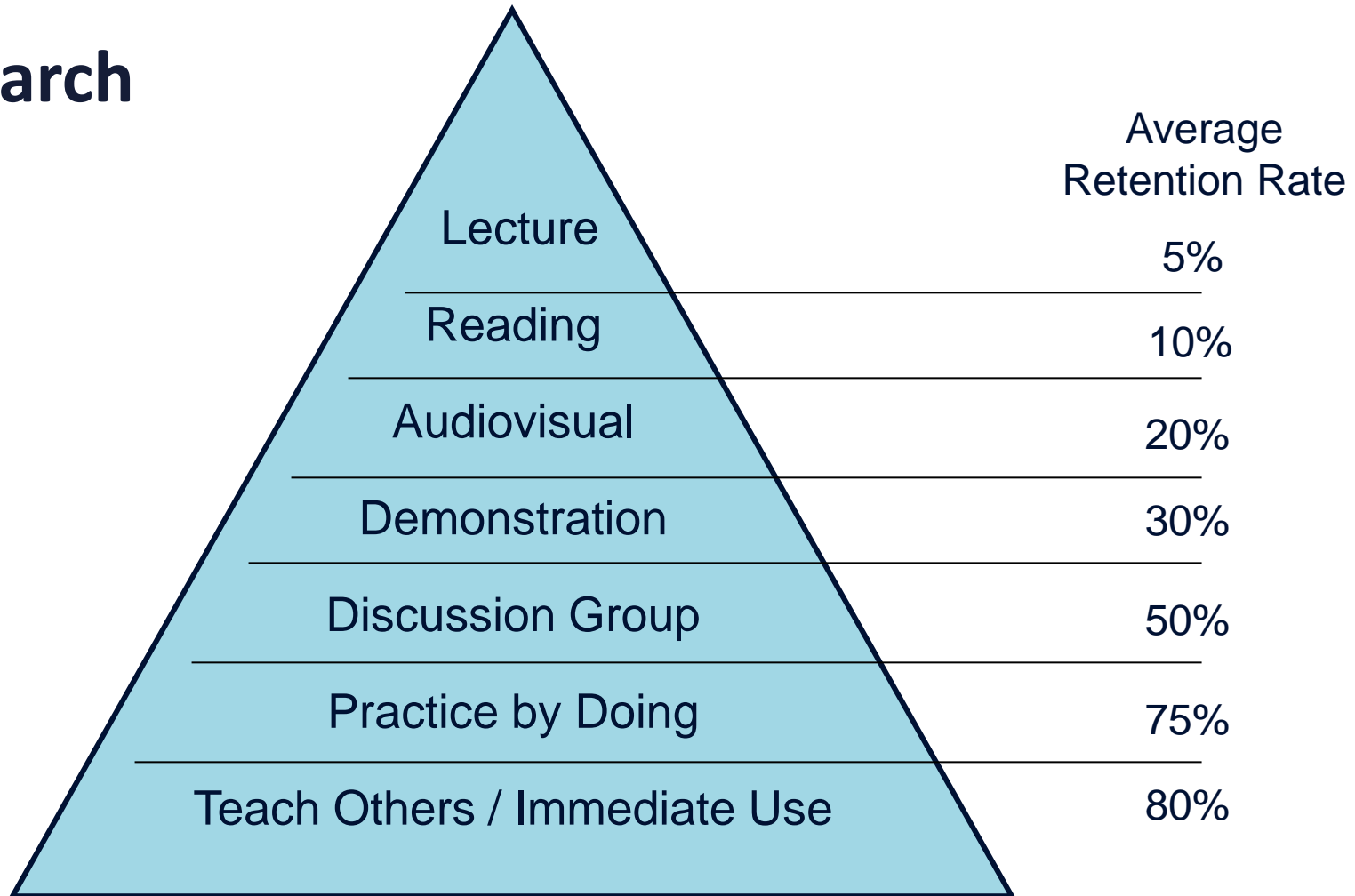


-  Holiday
-  Skills Training

# PBL. Why?



# Research



## Basic principles

- Contextual
- Constructive
- Cooperative
- Self-directed



3CS



# Why do we use problems? Learning is contextual

*“Management Schools train specialists, not trained managers.  
We need to put students into situations where skills can be  
practiced.”*

(Mintzberg, HBR, 1975)

# Why do Learn

“Manag  
We ne  
practic

(Mintzber



gers.  
be

## Why don't we tell you

Studies have shown that when students are tested about their knowledge of basic economic principles six months after completing an introductory economics course, they score no better, on average, than those who never took the course.

(New York Times, August 12, 2007)

## Exercise: Remember the words

- Athlete
- Prisoner
- Painter
- Airplane

- Mountains
- President
- Air
- Tower

**Write down the words**



# Learning is constructive

- Athlete
- Prisoner
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# Learning is cooperative

## *Why do we learn in groups?*

Common criticisms on MBA graduates:

- Too analytical, not practical and action oriented
- **Lacking interpersonal and communication skills**
- Not global in their thinking
- **Not working well in groups**

Alumni studies

- Largest Gaps: **Communication, decision-making & risk taking**
- Smallest Gaps: Analytical skills



# Objective Function

OBJECTIVE FUNCTION:

MIN:

$$\sum_{i=1}^{14} \sum_{j=1}^5 D_{ij} * V_i * X_{ij}$$

akes Distance times volume to find cost  
location against each processing

24

## Learning is self directed

Students play an active role in directing their own learning



## In sum

### Knowledge

Problems, Cases, Presentations, Real Stuff, ...

### Skills

Teamwork, project management,  
management games, ...



# Research (Evensen & Hmelo, 2000)

## PBL-students:

- More motivated
- Better in problem-solving and self-regulated learning
- Better in using knowledge for solving professional problems
- Better cooperating
- More satisfied with the curriculum
- More frustrated and not confident at the beginning
- Have learned less than in a traditional curriculum, but the retention is higher

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# Pitfalls

- Learning is a source of frustration
  - It is normal to be unsure about what is needed to learn
    - Workload is a good indicator for learning quality
    - 2 hours small group work require 8 hours individual learning as preparation for next session
- Information exchange is more than telling stories
  - Give input without reading textbooks
  - Try to use the whiteboard
  - Never take anything for granted. Don't trust the wise guys!

## When your group is not working well...

- Evaluate: Ask your peers what is going well / not so well
- Prepare questions to ask during tutorial
- Think of fun activities to do in the tutorial
- Talk to your tutor

# Questions?

