



Maastricht University

*Leading
in Learning!*

Problem based learning:

A survival guide for fresh exchange students

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Maastricht University

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





PBL: In short

Why?

What?

How?

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

Why do we use problems?



"Hello, 911? GET ME OUT OF HERE!"



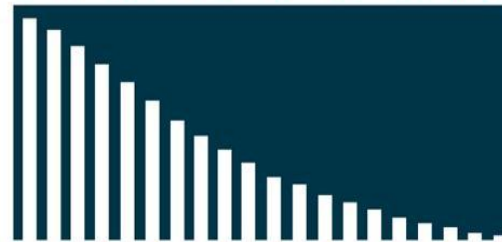
CRISISLER



Ferrari

DOWNJONES

FIASCO SYSTEMS



NOKIA
Disconnecting People



BAD YEAR



Why don't we tell you? (like traditional education)



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)

54%

Percentages

Word problem on percentage: Problem type 1

Find the sale price if the regular price is \$15 and the discount is 20% .

43%

Change of Sign

Integer subtraction

Evaluate the following:

$$30 - 40 =$$

$$1 - (-3) =$$



Why do we discuss them in groups?





- Common criticisms on MBA graduates:
 1. Too analytical, not practical and action oriented
 2. Lacking interpersonal and communication skills
 3. Parochial, not global in their thinking
 4. Want to move into presidential positions quickly
 5. Not working well in groups
- Alumni studies
 1. Largest Gaps: Communication, decision-making & risk taking
 2. Smallest Gaps: Analytical skills

→ Learning pyramid

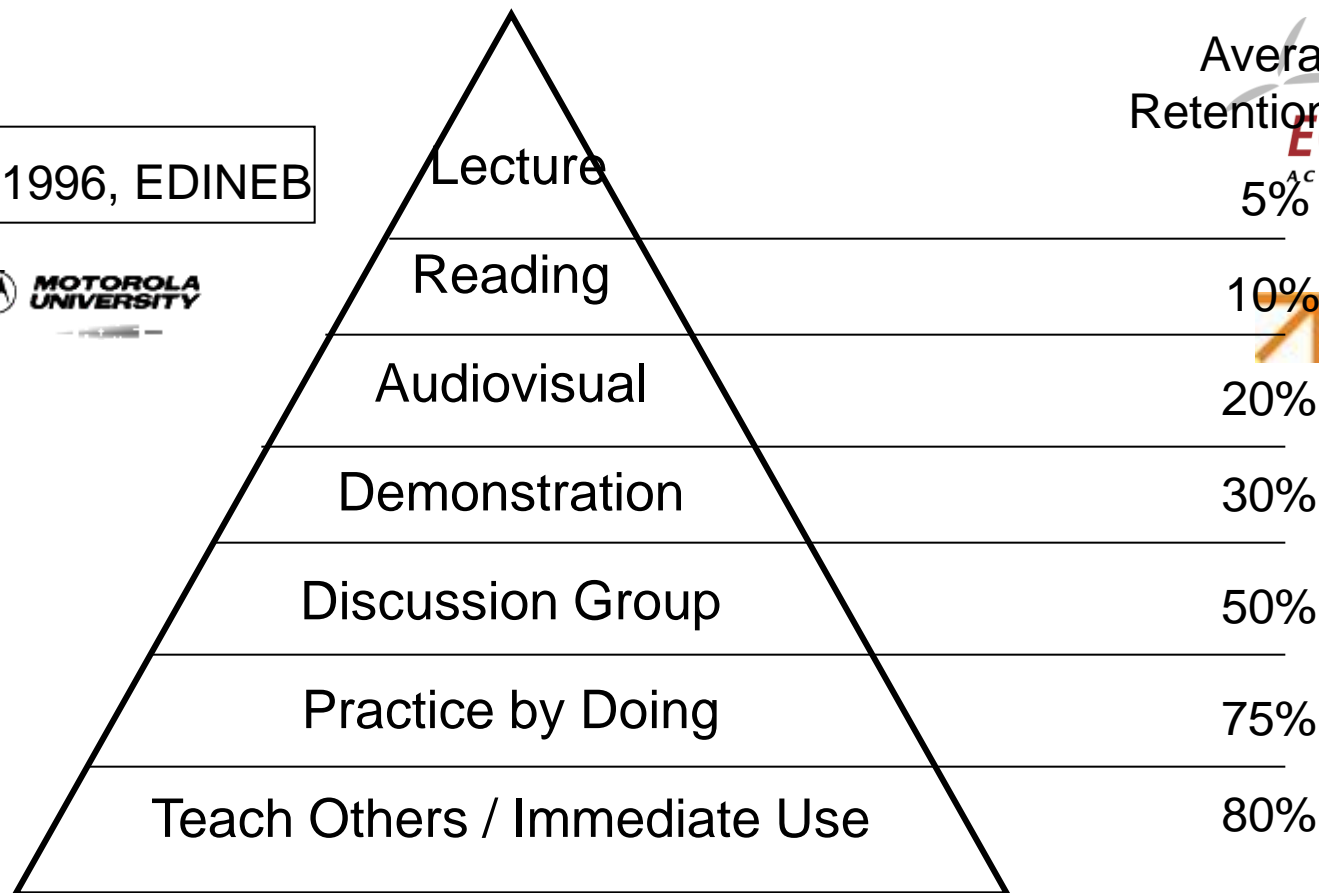


Average
Retention Rate
5%

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Bales, 1996, EDINEB



Memorizing is NOT learning



The procedure is actually quite simple. First you arrange things into different groups. Of course, one pile may be sufficient depending on how much there is to do. If you have to go somewhere else, due to lack of facilities that is the next step, otherwise you are pretty well set. It is important not to overdo things. That is, it is better to do a few things at once than too many.

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Memorizing is NOT learning



- Probably poorly understood
 - Likely that most people read the passage slowly
 - Focus for a long time on certain text parts
-
- This process is generally regarded as seeking for existing knowledge networks in your memory that could interact with information in the text to construct meaning and to make sense of what you are reading.

In sum: We care for knowledge and skills

- **Knowledge** and Analytical Skills
 - Problems, Cases, Presentations, Real Stuff, ...
- **Communication** Skills
 - Teamwork, project management, management games, ...



What and How?

An example:



- 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 riding high as jeans became fashionable among women as well as men. Lee couldn't make jeans fast enough. Recently, however, ten plants were closed down. Furthermore, Lee's international sales decreased despite enormous demand in foreign countries. Nowadays, Chief Executive Officer Fred Rowan is struggling to reorient Lee to suit the changes in the external environment.
- In order to make a sound reorientation, what is the first thing Fred should do?

Lee®

Labor, Welfare & Health

Brand & Image

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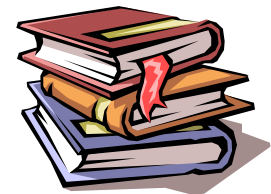
Competition & Markets

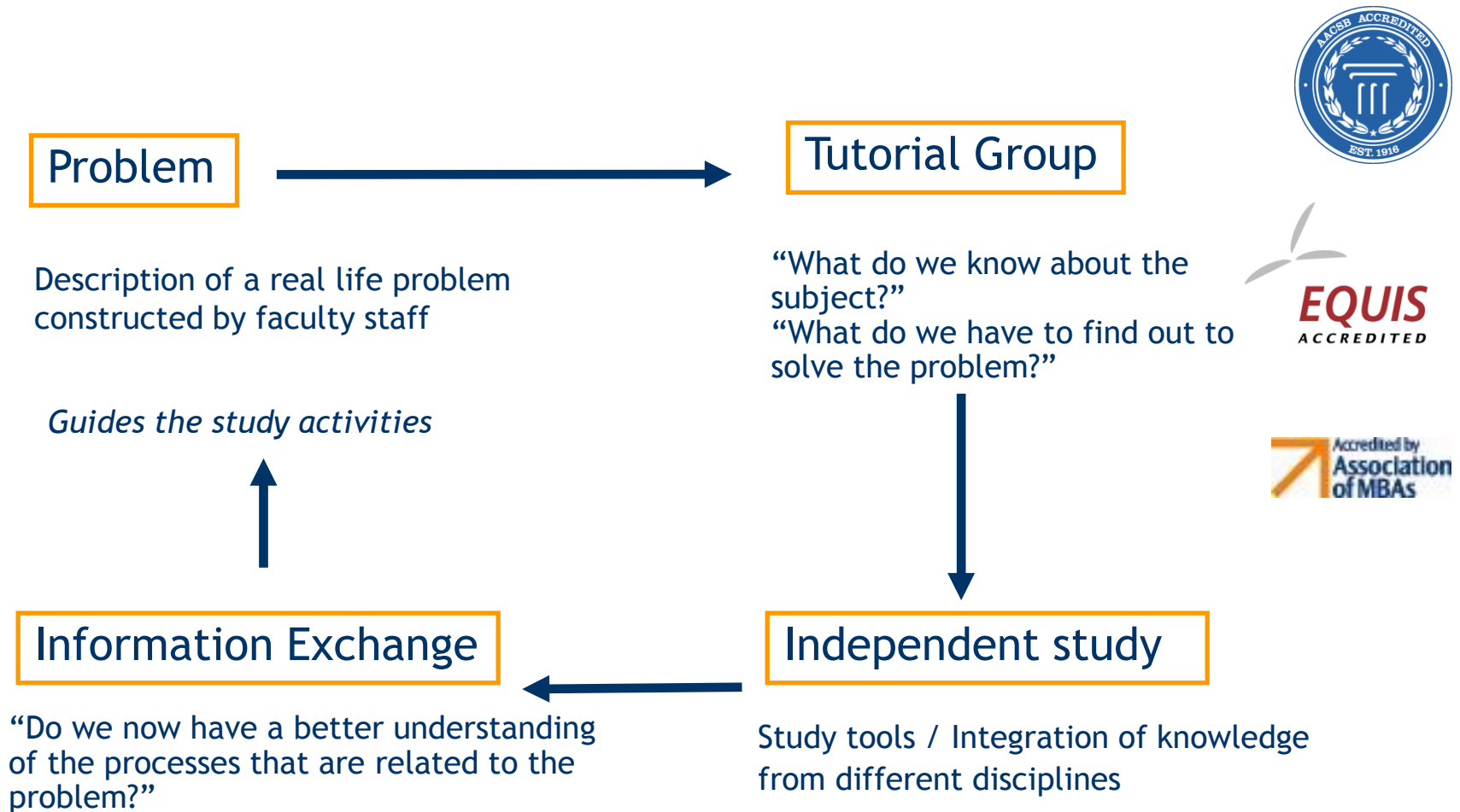
Pollution & Environment



Tool: Seven-Jump

- 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 synthesize





Roles in a tutorial group



Alternating roles between the group members



- Group member
- Discussion leader
- Secretary
- Tutor





Your tutor...

- **Assists** Students
 - "He let the students in the tutorial have free rein ..., but always held us accountable to a critical thought process."
- **Creates** a pleasant learning environment
 - "Responded to very diverse points of view, styles, and preparation equally enthusiastically. No one felt left out."
- **Contributes** knowledge and experience
 - " ... obviously working hard at keeping up."
- **Questions** everything
 - "Are you certain of what you are saying?"
 - "Is there something more you need to know at this point?"

If your group is not functioning:



**Take your responsibility
and make it work!**



Contact your tutor!

→ Research on PBL (Evensen & Hmelo, 2000)

PBL students are...

- More highly *motivated*
- Better at *problem-solving* and *self-directed learning*
- Better able to *integrate* basic science into the solutions of professional problems
- Better at *collaboration*
- Are more *satisfied* with their curriculum
- Initial learning is not as good as in a conventional curriculum but long-term *retention* is superior
- Are initially *frustrated*, feel *not confident*

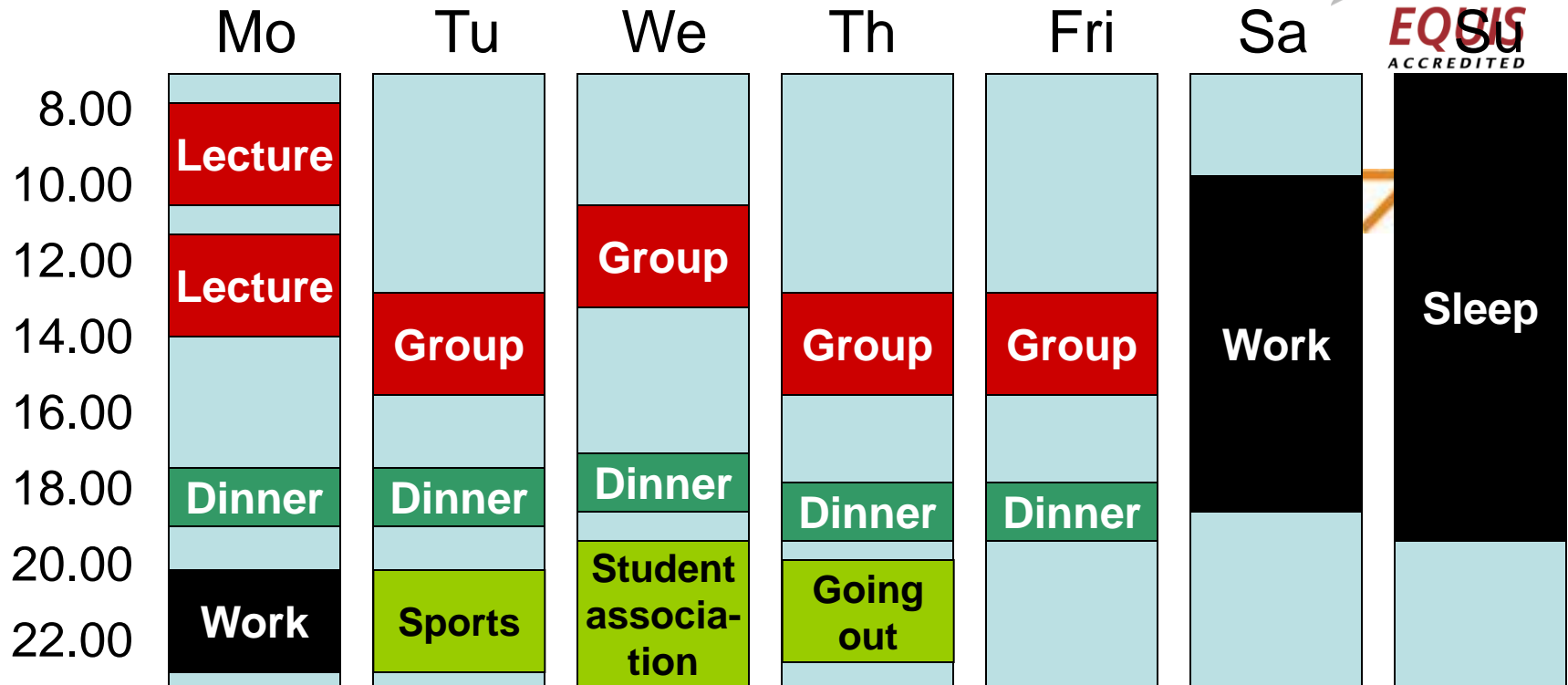


Pitfalls

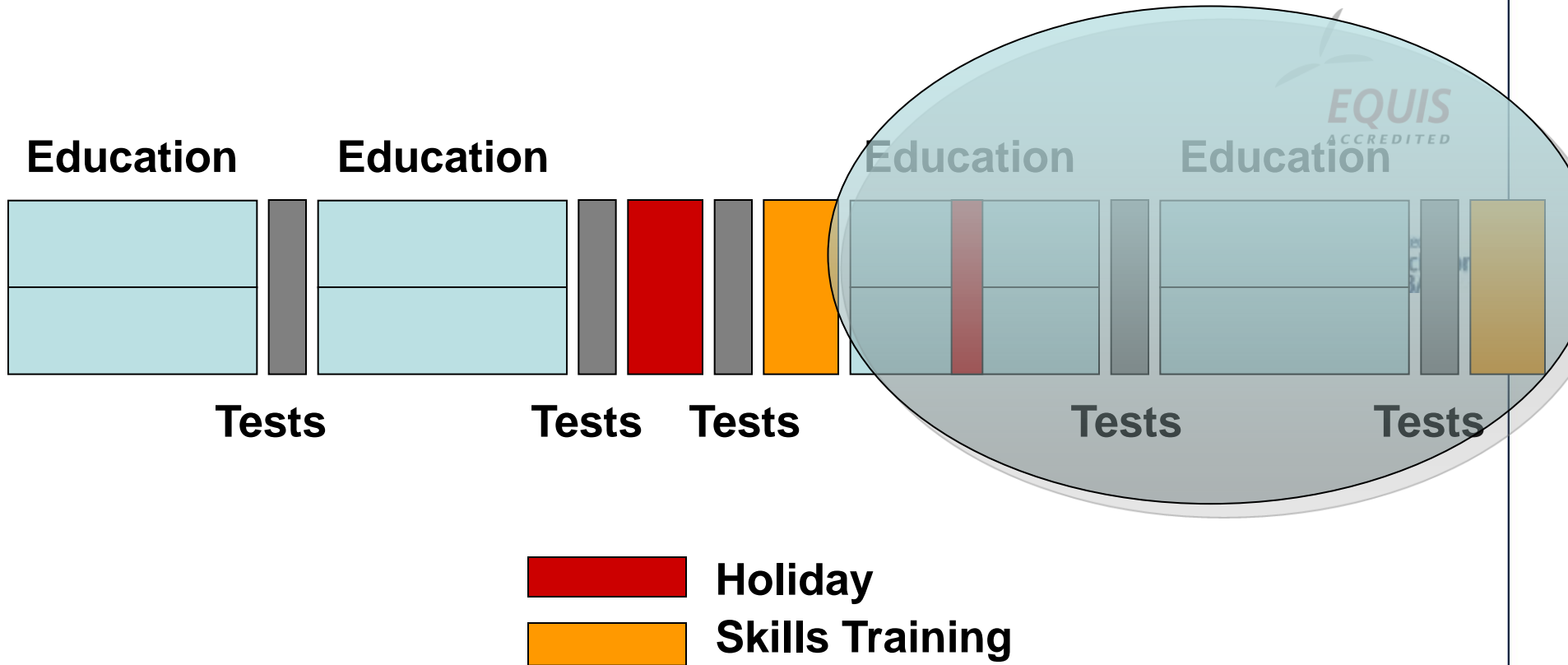
- Learning is a source of frustration
 - It is normal to be unsure about what is needed to learn
 - Workload is a good indicator for learning quality
 - 2 hours small group work require 8 hours individual learning as preparation for next session
- Information exchange is more than telling stories
 -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



Learning & Your Average Week



Year schedule



Rules of Conduct & Regulations



- Plagiarism
 - We use software to scan every document
 - Cooperation or exchange of information can be considered as fraud
- Course Attendance
 - We monitor attendance
 - Assess group contributions
 - Sanctions for not meeting rules
- Written Examinations
 - Check what is permitted and **NOT** permitted
- **Rules are Rules**
 - Even in the Netherlands!!



Your Survival Kit

- Be Smart
 - Do not play the macho male, because females ...
- Be Alert
 - Exams can cause surprise .
- Be There, On Time
 - “Sorry is too late”
- Be Happy, Enjoy





Enjoy your stay at Maastricht University!

