

# Problem Based Learning

- the way to engage the university in learning and societal development

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# Who are here

- **Teachers** from the six Moldovian universities that will be engaged in the PBL-project
- **Students** from the same six universities representing those who will study under the PBL-umbrella
- **Experts** from PBL-based universities in EU countries

**We are the team -  
responsible for making this project a success**

We will meet several times in the coming three years

-let us start collaborating today

# PBL has Roots in Old Wisdom

*Tell me and I will forget  
Show me and I will remember  
Involve me and I will understand  
Guide me and I will act*

Teaching forms:

- \*The lecture;
- \*The demonstration/visit to company
- \*The case
- \*The student project

# Human Assumptions

Any educational system has some assumptions on students and learning and how to teach.

# Profile of students

## From a study of entrepreneurship: \*

- Wish to create something
- Influence
- Personal challenges
- Stage one-self
- Flexibility in work (and leisure)
- Team but benefit for me
- Risk averter??
- In search of an identity

## PBL-Assumptions:

- Eager to learn
- Curious
- Eager to create
- Able to integrate
- Able to work hard

\* Sørensen, O. J. & R. Ivang (2003): Towards an Innovation and Entrepreneurship Culture at AAU. I wish...Dare I? Dept. for Business Studies. Aalborg University.

# PBL-assumptions about Teachers

- Know and engaged in developing their field  
(Law; Medicine; Business; ICT;)
- Know and engaged in the context in which their field is put to work;
- Interested in developing young people intellectually  
-to become experts and managers
- Ready to admit that I do not know and face that on project students may know more

Mathematics → Algorithms → Software → APPs → Mobile Phones → Getting around

\*Not just teaching them

# What is PBL?

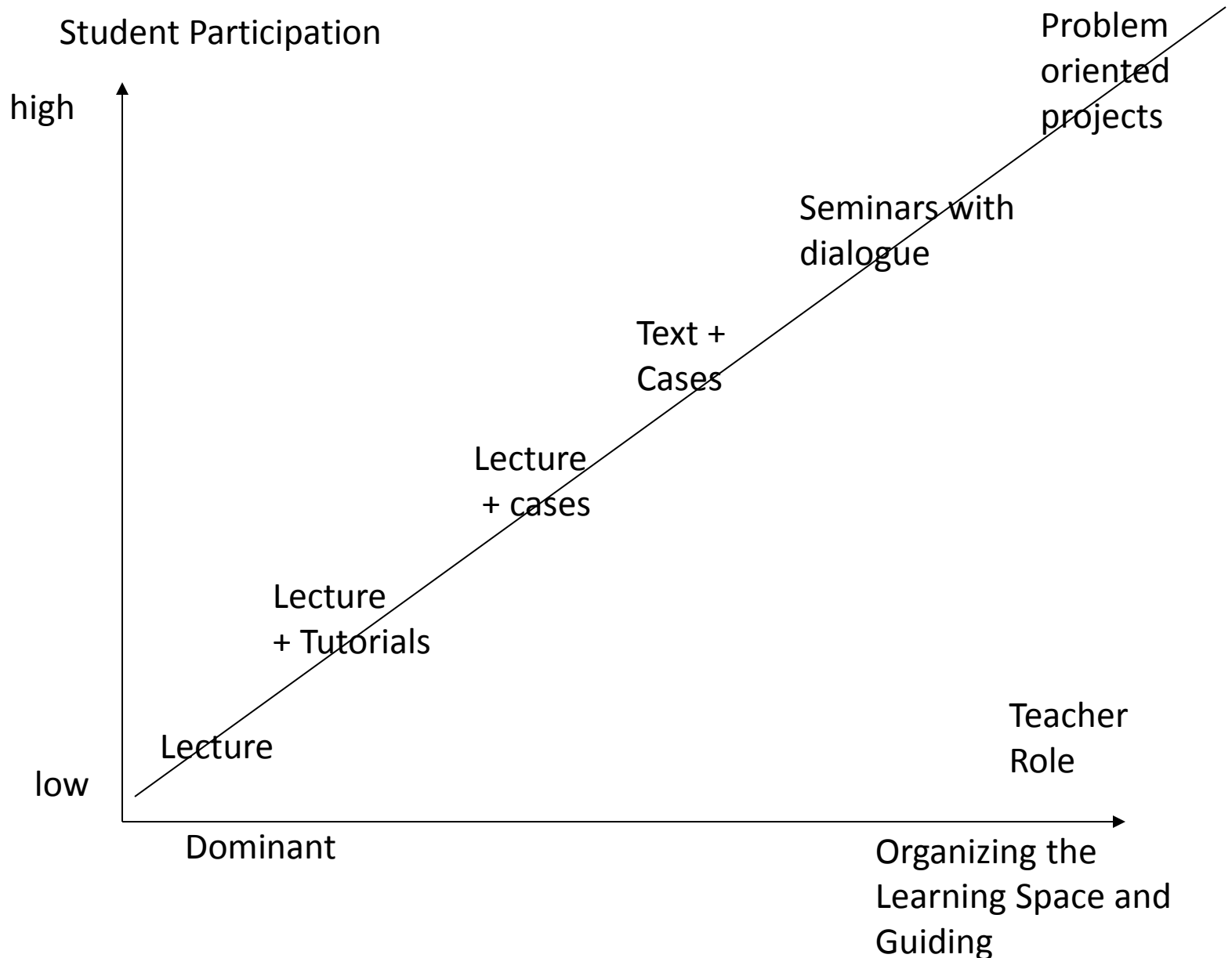
\* Student Centered Learning

Yes, but this is only a half PBL

- Student centered learning  
guided by insightful academic staff

\*Teachers in new roles: Organizers of learning space; monitoring; supervisors; examiners – and we are also still lecturing.

# Re-active to Pro-active students





# PBL and New Learning Theory

The PBL-model builds on newer insights into learning:

1. Knowledge from research (analytical knowledge)
2. Experienced based knowledge (practice based knowledge)

PBL is based on the synergies between the two

3. Creativity : Can be learned

4. Capacity to learn increases with level of knowledge (absorptive capacity theory)

# The Role of Theory

”I like AAU because you are more practical oriented” – less theories?

Theory is very important but has another role in PBL

1. Research based teaching, i.e. Teachers are also active researchers.  
- They know how to generate new knowledge

2. Theories are basically ”ways of thinking about a phenomenon (reality)”



# PBL and the Internet

1. Easy access to research, experiences, ideas and opinions and gossip
2. Short distance from idea to information/knowledge

Example: To export you need insights into Culture:  
How do you define culture?

# How much is the program involved in "Practice"

	Outside University	Laboratories/ databases	Part of Training
Inf Tech	(X)	X	
Public Adm	X		
Business Adm	X		
Entrepreneurship	X		X
Law		(X)	
Medicine		(X)	X

# Three Generations of PBL

**1st Generation:** Practical problem as point of departure to enhance motivation, relevance of studies and improve reflections.

**2nd Generation:** More outward oriented – solve practical real life problems in cooperation with environmental actors,

**3rd Generation:** Theory and practice more integrated in an iterative process and under conditions of complexity/uncertainty. This includes own real life constructions and a general way of thinking

**Next Generation:** We run experiments continuously

# PBL at different levels

			Example	Level
All curricula	Physical setting	Intensive collaboration with stakeholders	AAU	University
<b>Single curricula</b>	<b>A few PBL-spaces</b>	<b>Intensive collaboration with stakeholders</b>	<b>Moldova</b>	<b>Single Education</b>
Single course*	No extra facilities	A few contacts	Many	Individual teacher

\*Single PBL-designed course amongst many traditional courses



# PBL for Individual Course

From a traditional course to PBL-format:

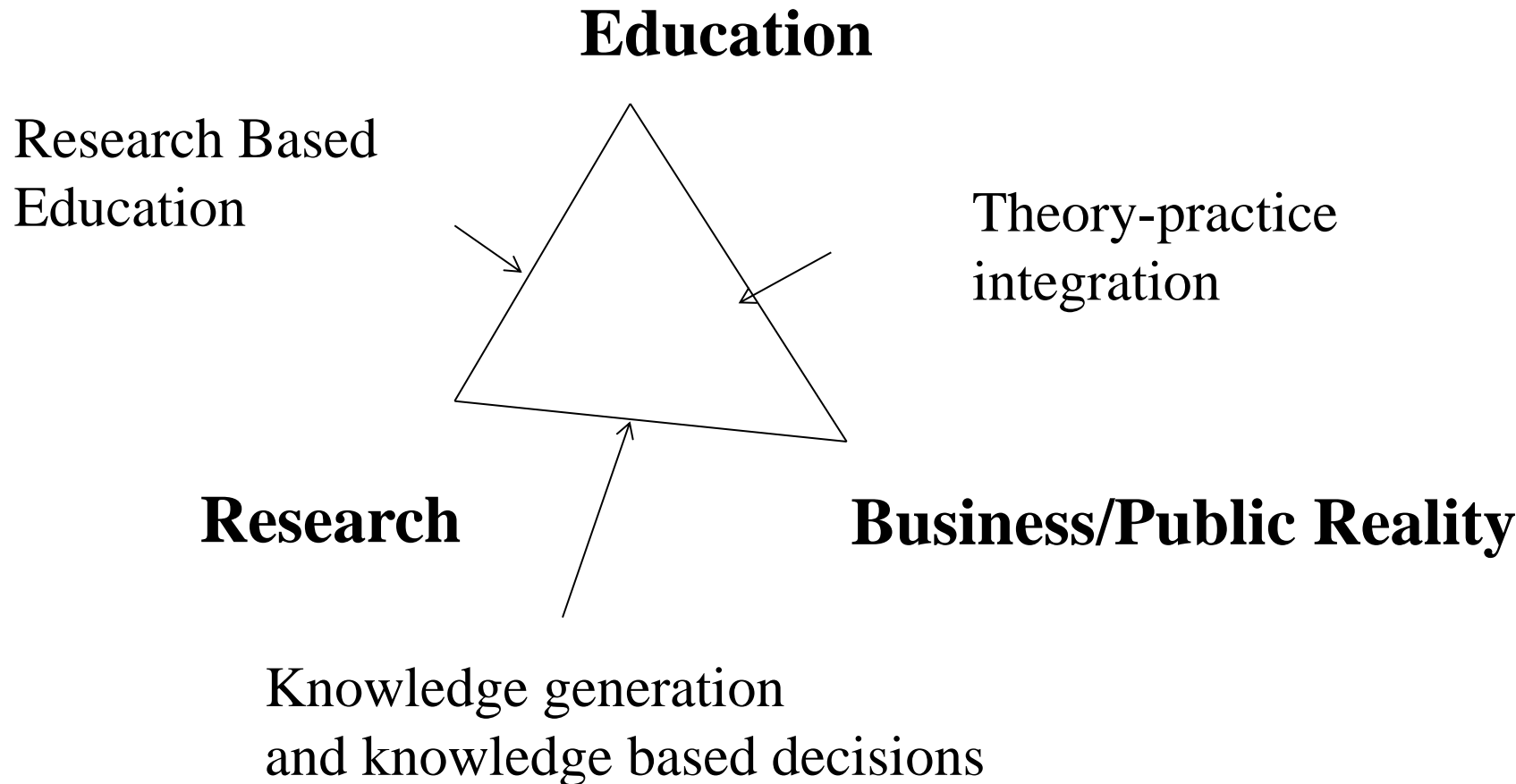
- Look at the freedoms you have (selection of literature; mode of teaching; number of confrontation hours; scheduling of activities; mode of exam; etc.
- More emphasis on reading and discussion
- Iterativ case on local company (not a HBS-case)
- Group work
- Small project (10 pages)

Most university structures allow for these elements

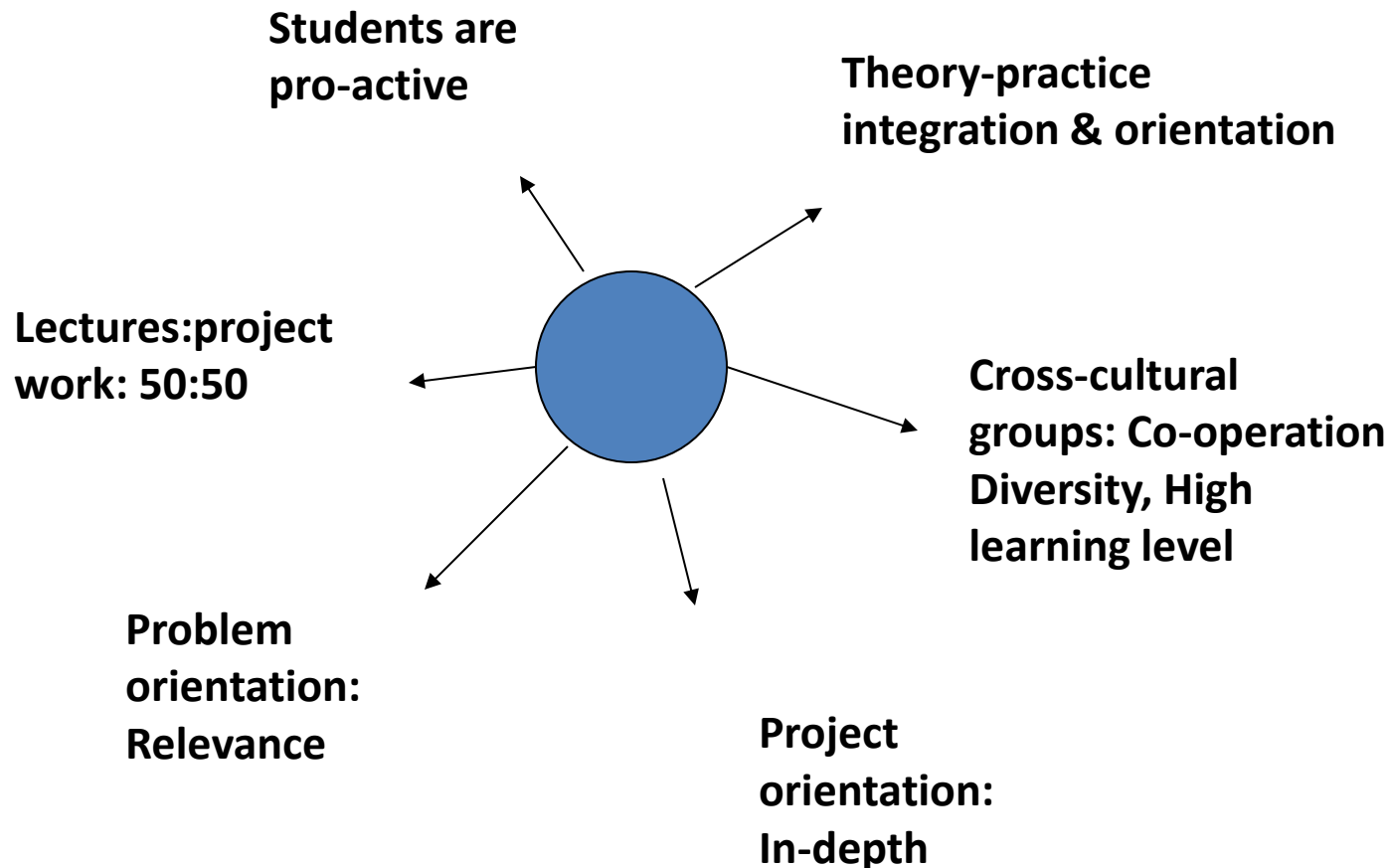
Examples from Aalborg University



# The Engaging University



# Pedagogical Philosophy at Aalborg University



# Examples from Aalborg University

\*Single Module – one month

\*Semester project

\*Internship

# Single Module – one month

**Topic:** E-commerce and Market Analysis

**Problem:** How to improve customer satisfaction and retention

## **Design:**

1. Contact to an e-commerce company in the region
2. Lectures/literature on e-commerce.
3. Design of questionnaire in each group and synthesize the questionnaire
4. Access to company customer files
5. Online access to the management
6. Web-based survey; data analysis and proposals
7. Report and exams

## **Teacher role:**

- \*Identify and organize with the company;
- \*Prepare literature and teaching
- \*Supervise the student groups
- \*Conduct the exams.

# The Company as an Integrated Whole

- Semester project on Theory-Practice Integration

-Form groups of five students with one supervisor assigned

-Identify and make arrangement with companies

-Visit the company with the group

-Three student tasks

\*Describe the Company

\*Identify Problems

\*Solve one or more Problem

-Submit project to company and hold exams

# PBL-development: A Continuous Process



I started developing PBL in 1972

I still run PBL-experiments every year

I run a PBL-based graduate program in Innovation Management in Beijing since 2012

I will be happy to share the excitement and my experiences



# PBL and Entrepreneurship

Problem-based teaching and development of the entrepreneur's action competence

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## Abstract

*Contemporary literature as well as entrepreneurship facilitators argue that the orientation and organisation at universities are inappropriate to promote entrepreneurship, and what is required is a genuine entrepreneurial university. However, the present article argues that it is possible to promote entrepreneurship within the framework of the problem-based learning (PBL) pedagogy. What is required is a further development of the PBL model towards what could be labelled as a 3<sup>rd</sup> generation of PBL in which the focal point is the “action” and the “construction of reality”. The article puts emphasis on the parameters that constitute this 3<sup>rd</sup> generation. At the same time it is stressed that the teaching of entrepreneurship must be fully integrated in the normal curricula and not detached from the general organisation of the university teaching. The traditional strengths of the university originating from research (systematisation) and learning (curriculum development) respectively are meant to be applied in a constructive manner in the development of the 3<sup>rd</sup> generation of the PBL model. This is meant to avoid fragmentation as well as to strengthen the action- and reflection procedures. The article focuses on the pedagogy and the organisation whereas the financial element is only slightly touched upon.*