

*The group process-analysis and its reporting (supported by course-work, consultation, workshop and feedback) as scaffolding of learning and learning-to-learn*

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**PBL Academy: First year PBL at AAU**

**Pia Bøgelund**  
[pb@plan.aau.dk](mailto:pb@plan.aau.dk)

**Claus Monrad Spliid**  
[clauss@plan.aau.dk](mailto:clauss@plan.aau.dk)

Dept. of Development and Planning



## Brief history

Kolmos, Bøgelund  
& Spliid (2017)

### **1974-1994 Instruction**

- ❑ course initially supporting project-reporting, later also the process (methodology; group-dynamics)
- ❑ project diary + **process description**

### **1994-2006 Experiential learning**

- ❖ course supporting learning objectives to be assessed during project-exam
- ❖ project log + **process-analysis**

### **2006- Instrumental learning**

- course supporting learning objectives to be assessed in individual exam & project-exam
- (portfolio &) **process-analysis**

2

## Course objectives (skills only)

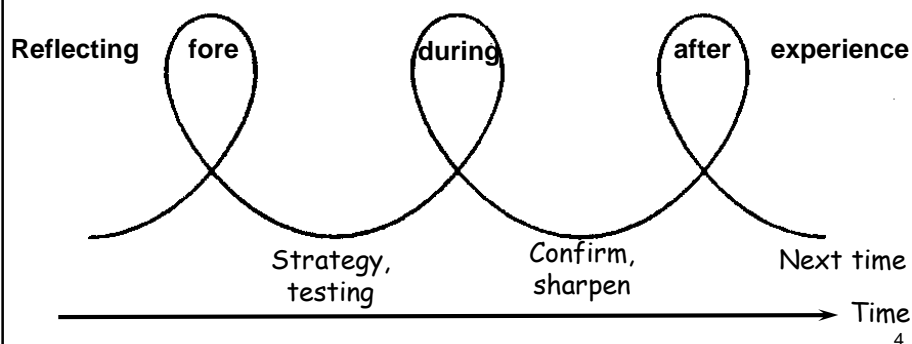
Upon completion of the introductory PBL-course students must be able to

- ✓ **apply** basic principles and study techniques related to planning and management of a problem-based project; especially including phases in a problem-oriented project, from initial problem to problem analysis and problem formulation, design, implementation and evaluation
- ✓ **analyze** and **evaluate** the organisation of the project group work, **identifying** strong and weak factors within, e.g., group dynamics, team roles, internal/external communication and time management; **reflecting** on improvements for future situations and **documenting** the applied methods for the analysis (application)
- ✓ **analyze** group conflicts: causes and possible solutions (application)
- ✓ **analyze** and **evaluate** own contribution to studying and learning, e.g., by **identifying** continuous course of events influencing own learning, **reflecting** on how these events form the learning processes, learning style and the personal study experience (application)
- ✓ **apply** basic methods for analysis and evaluation of a [specific and relevant] problem from a scientific, ethical, technological and societal perspective
- ✓ **apply** basic creative design methods for problem solving tasks, especially considering wider contexts, e.g., assessing life styles, consumption, communication and common practices

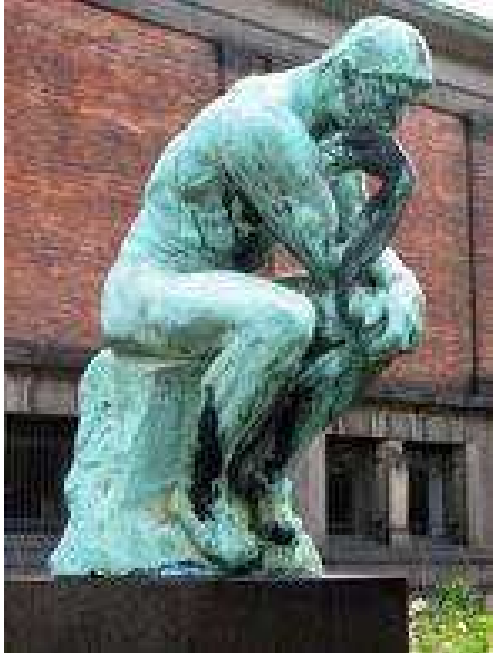
3

## Experimentation and reflection

Asking why....will we do.....do we do....do outcomes show....will we do...?



Inspired by Cowan (1998)



*Mastering Projects and Processes  
in the Aalborg PBL Model  
C.M.Spliid, 2011*

## Agency-logic:

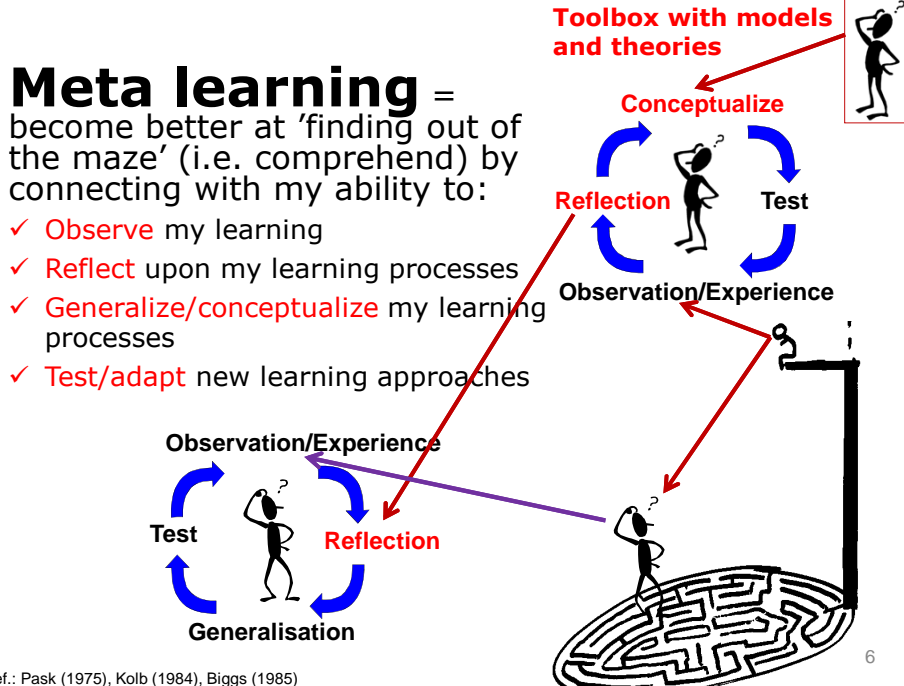
“We have a grip of the project when we know why [things should be done]....”

5

## Meta learning =

become better at 'finding out of the maze' (i.e. comprehend) by connecting with my ability to:

- ✓ **Observe** my learning
- ✓ **Reflect** upon my learning processes
- ✓ **Generalize/conceptualize** my learning processes
- ✓ **Test/adapt** new learning approaches



Ref.: Pask (1975), Kolb (1984), Biggs (1985)

6

## What's the logic?

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➤ **Transparency** – **monitoring** significant factors

- research design
- scheduling time
- knowledge sharing

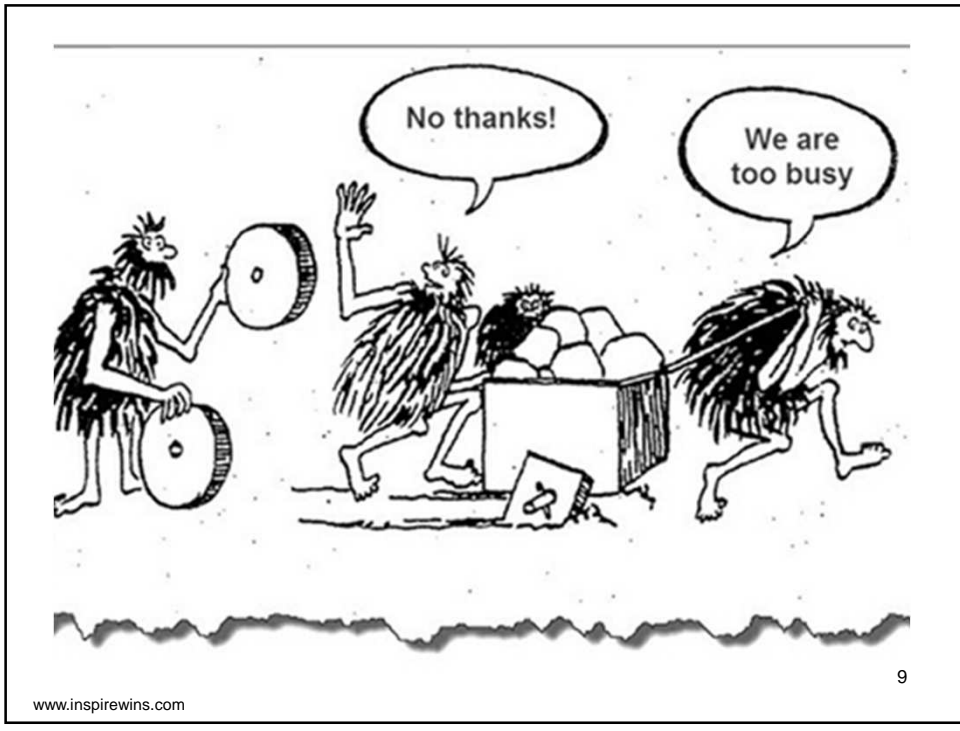


➤ **Black box** – **negotiating** agency

- decision making
- reflection (meta learning)
- learning (objectives & achievements)
- handling uncertainties, possibilities.....

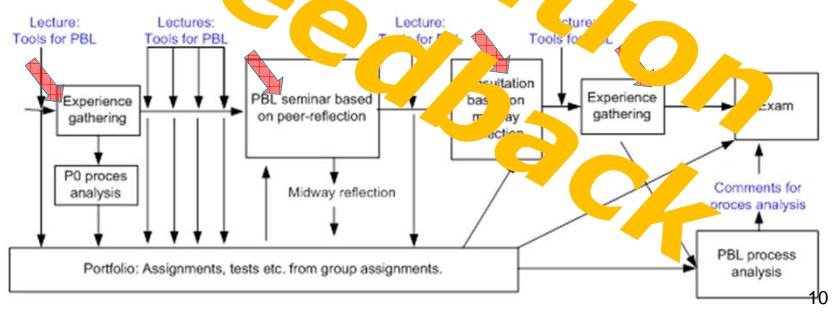
7





### Collaboration, Learning and Project management (CLP course, 1<sup>st</sup> year at AAU)

- ❖ Portfolio (documentation regarding to project and learning process)
- ❖ Experiences and Learning
- ❖ Reflections
- ❖ Conceptualization



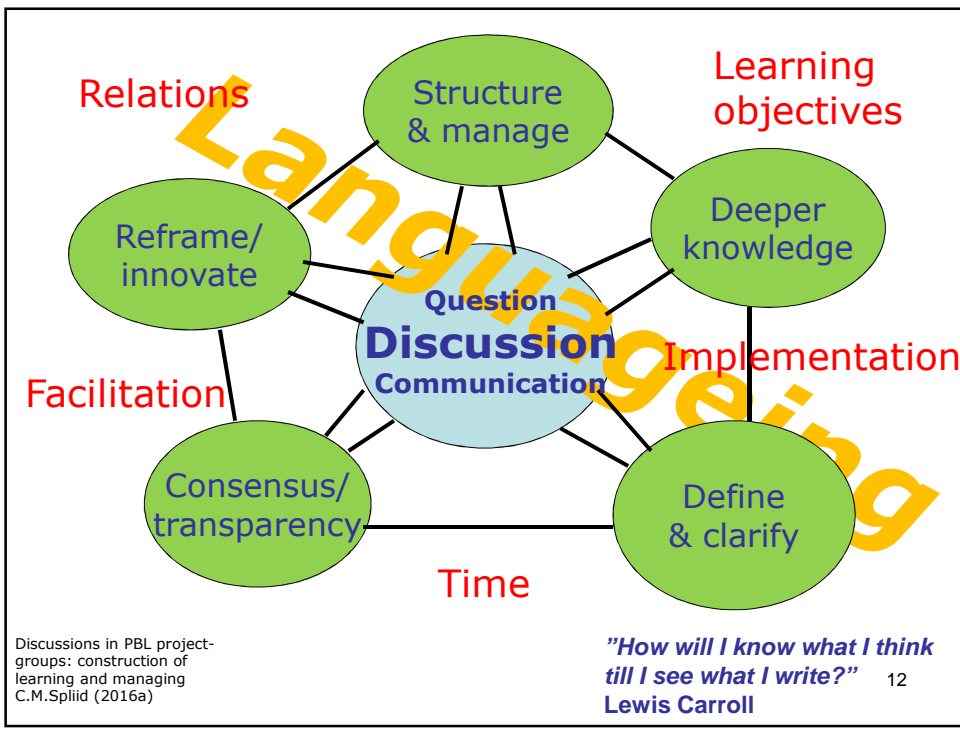
*Individual and organisational learning*

**Tacit vs. communicated**

<http://www.henkancoaching.com>

Dixon (1999)

11



## Out of fairy tales ...

### **Development Transformation**

- Autonomy
- Mastery



### **Releasing**

- Self / Identity
  - Individuation (Jung)
  - Profession
  - Purpose
- Potential / Purpose
  - Agency
  - Drive
  - Direction



Spliid 2016a & 2016b

empowernetwork.com

13

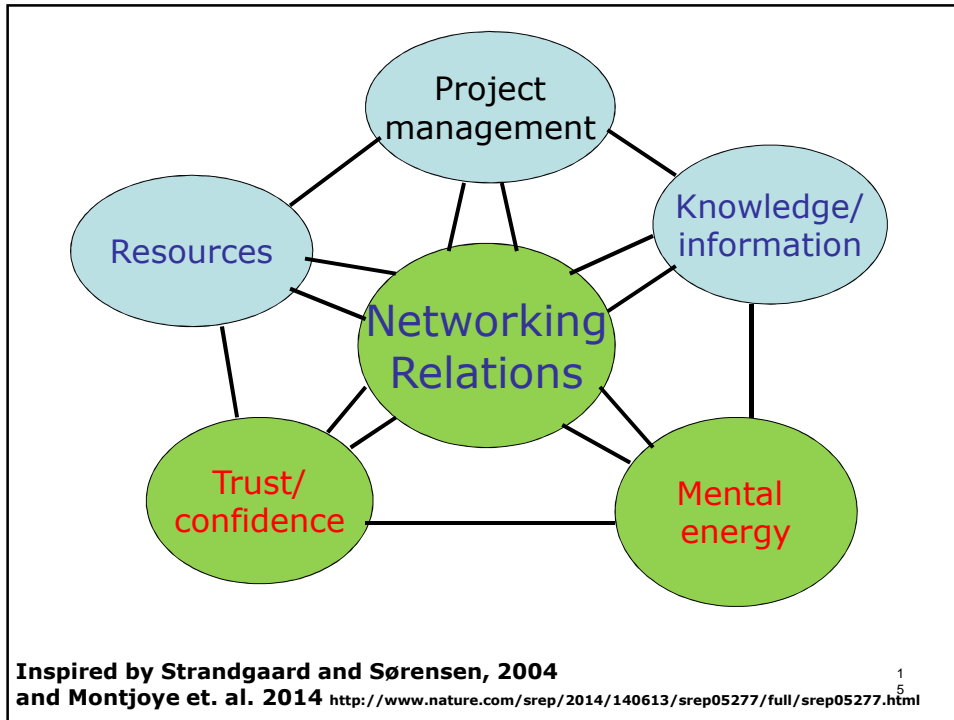
## Solo vs. socially shared



teachtolearn.tripod.com

contea.wordpress.com

14



*Mastering Projects and Processes  
in the Aalborg PBL Model  
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## Factors significant for an efficient and effective project

Goals	Activities	PM Tools	Personal issues
<b>[Structure]</b>	Planning Revisions	Time-schedule Planner Top-Tail Problem Statement Research Design	Discipline Motivation Engagement Attention
<b>[Efficiency]</b>	Decisions Task division Focus	Agenda Moderator Collaboration agreement	Trust Confidence Awareness
<b>[Learning] [Effectiveness]</b>	Discussions Writing Feedback (incl. facilitation)	Problem Learning outcomes Peer learning Log	Ambitions Preparation Sharing
<b>[Familiarity] [Social] [Emotional]</b>	Communication Social activities Evaluation	Collaboration agreement Tests on styles of learning & working	Openness Trust Confidence Attention <sup>16</sup>



## What's the (tacit) reflection-logic? (AAU eng-sci student-groups)

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- Reflection-in-action (Schön 1987)
  - common sense
  - wayfinding: muddling through
  - "where do we go from here" (iterations)
  - assimilative (learning) approach
  
- Reflection-on-action (Kolb 1984)
  - making meaning
  - wayfinding: negotiating, decision-making
  - "where are we now"
  - accomodative (learning) approach



17

## What's the challenge?

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- Reflecting upon activities (experiences)
  - common sense (non-systematic approach)
  - wayfinding: muddling through (direction?)
  - "where do we go from here" (numerous iterations)
  - assimilative approach (confirming known patterns)
  
- Reflecting upon learning (achievements)
  - making meaning
  - wayfinding: negotiating, decision-making
  - "where are we now" (why? alternatives?)
  - accomodative approach (restructuring)



18

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