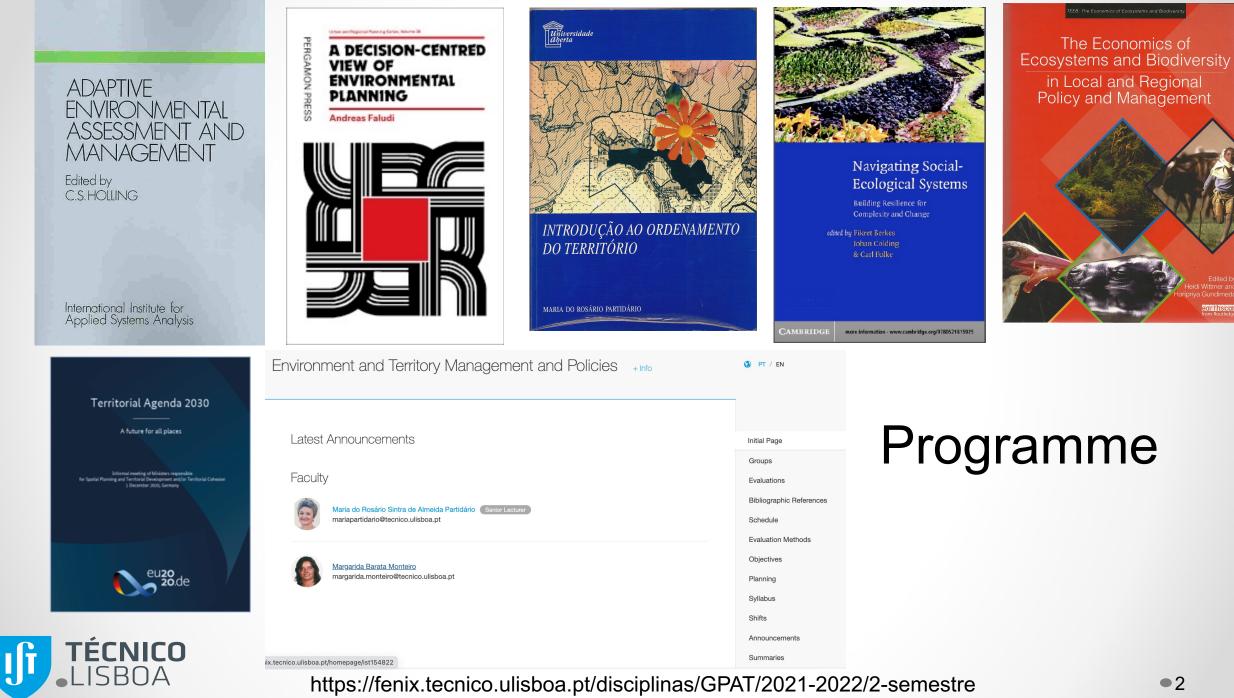
Mestrado em Engenharia do Ambiente / Master on Environmental Engineering Gestão e Políticas de Ambiente e Território/ Environment and Territory Management and Policies 4/P4

# Introduction Learning methodology

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### **Questions test**

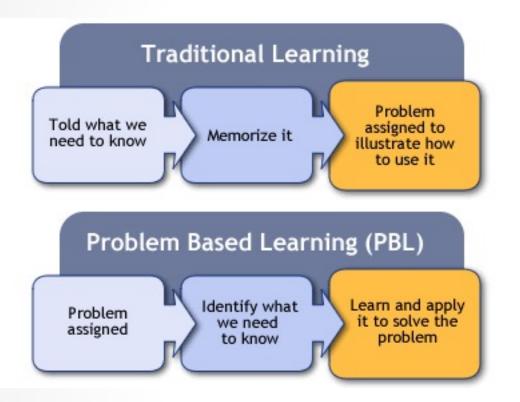
Open Socrative Room: Partidario



#### Método de aprendizagem / Learning method



## Problem/project based learning



The PBL-model assumes that **students learn best when applying** theory and research based knowledge in their work **with an authentic problem**.





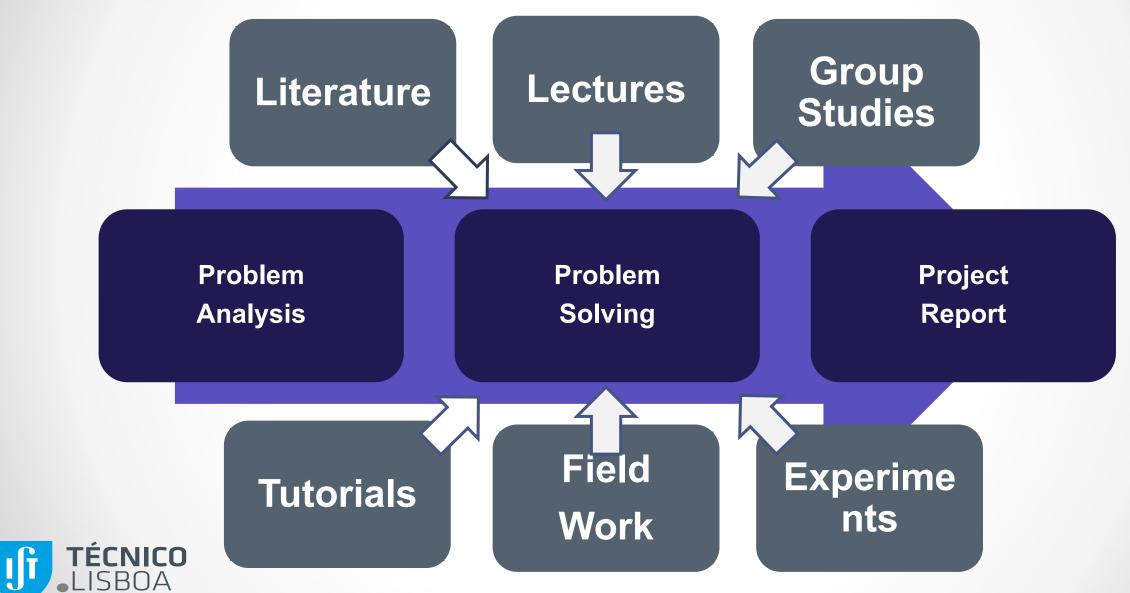
### **PRINCIPLES OF PBL at AAU**



- Project work based on authentic problems
- Project organization creates the framework of PBL
- Self-governed group work and collaboration
  Cooperation is a driving force in problem based project work
- Courses support the project work students get tools for independent acquisition of knowledge, skills and competences at an advanced academic level.
- The students are responsible for their own learning achievements
- During studies, students have the opportunity to cooperate with external partners on solution of scientific problems.



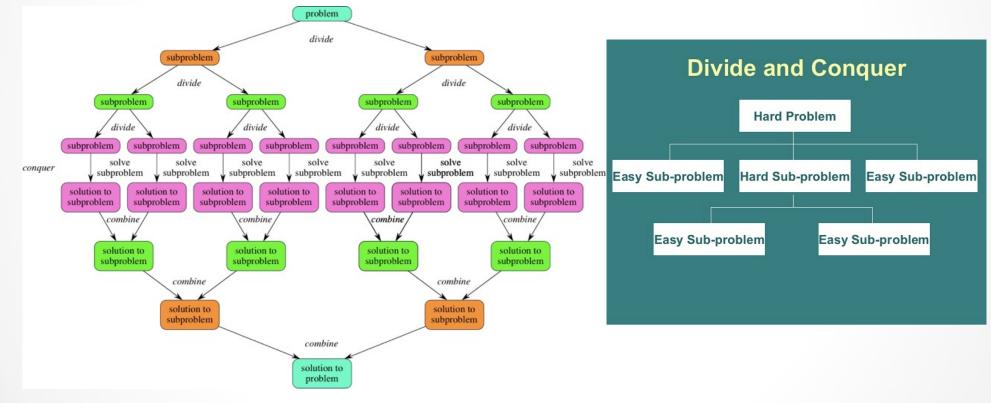
#### THE PBL PROCESS



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### Problem structuring for problem solving

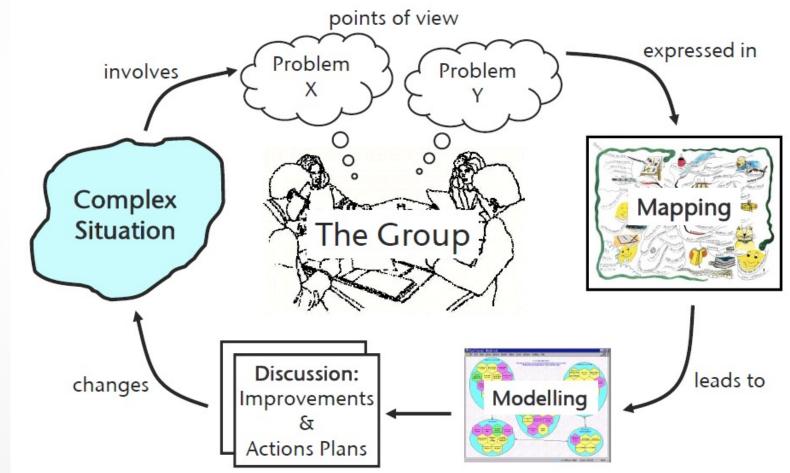
**Problem solving** – driven by the need to find a correct or optimal solution problem is complicated, you break it into simple parts and work with only some of them, analysis will be objective.





### Problem structuring for problem understanding

**Problem understanding**- the assumption is that there may be multiple perspectives on what the problem is. Solution or improvement depends on the framing used in an analysis and the values that inform that framing – there are no 'optimal solutions'

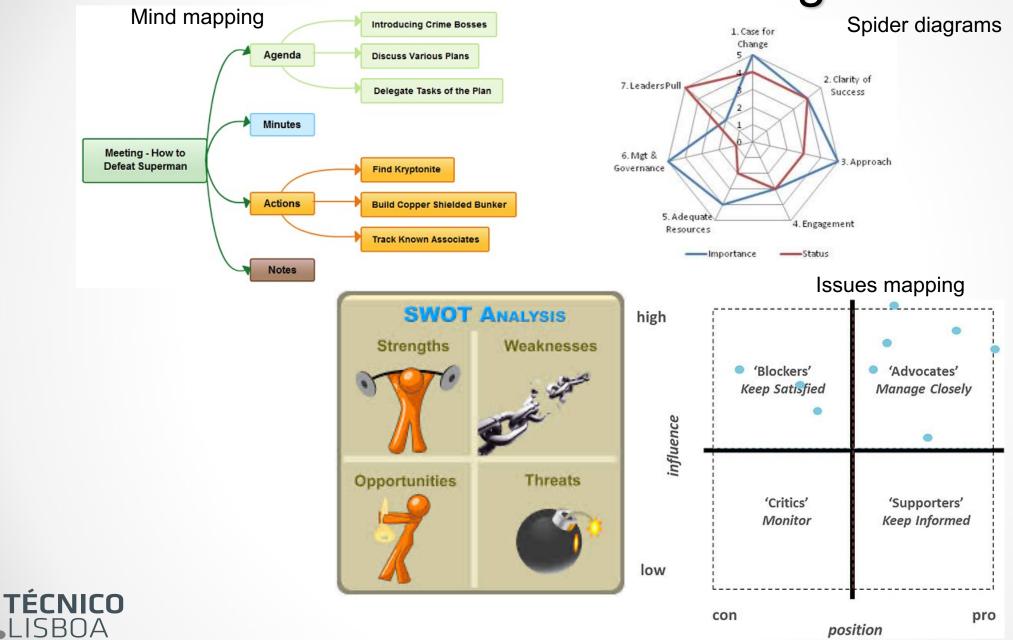


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## **Problem structuring**



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### The methodology follows four stages:

- 1. Identification (What is the problem / project?);
- 2. Analysis (What information do we need and how will we use it?);
- 3. Solution (What can be the solutions?);
- 4. Conclusions and perspectives (Did we achieve it?)

