



# EPICES

**European Platform  
for Innovation and Collaboration  
between Engineer Students**



Erasmus+

# FACTS AND FIGURES

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- 2-year European project co-financed by Erasmus+ (from September 1, 2014 to August 31, 2016)
- 2 backgrounds:  **PLACIS**
  - The French PLACIS project and issues raised during PLACIS : A new format to train engineers through at-a-distance international and/or industrial multidisciplinary projects carried out collaboratively by students,
  - The progressive change of the curricula, with new methods, new tools, new complexity, MOOCs issue...
- Partners:
  - Supméca, France (coordinator)
  - KU Leuven, Belgium
  - SEFI, Belgium
  - Riga Technical University, Latvia
  - Aalto University, Finland
  - Università di Napoli Federico II, Italy
  - Politecnico di Torino, Italy
  - Universitat Politècnica de València, Spain

# MAIN GOAL OF EPICES

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- Improve the project-based learning in engineering and work on the teachers roles, through 6 intellectual outputs:
  - O1 : Model of facilitator roles and skills in Project-based Learning in European Engineering Education
  - O2 : Initiation of training packages for developing effective facilitation skills for teachers involved in project based learning in European Engineering Education
  - O3 : Creation/adaptation of a platform for teacher networks for sharing best practices of facilitation in different media
  - O4 : Feedback and results on larger scale use of training packages & possible use of guidelines
  - O5 : Assessment Methodology for Project Based Learning in Engineering studies
  - O6 : Development of toolboxes/toolkits (for measurable competencies) for assessment of skills and knowledge with reference to the environment you are working in

# ROLE OF TEACHER ? MODEL BY KU LEUVEN

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ADVISOR

GROUP SPECIALIST

INSTRUCTOR

MODEL

MOTIVATOR

FEEDBACK PROVIDER

EDUCATOR

PROBLEM SOLVER

AUTHORITY

- HOW do different teacher roles support learning ?
- HOW do teachers view their role ?
- HOW does teacher view correlate with student experience on learning ?

[https://www.biw.kuleuven.be/projectbegeleiding\\_en/Information.aspx](https://www.biw.kuleuven.be/projectbegeleiding_en/Information.aspx)

# TEACHER ROLES IN STUDENT PROJECTS

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- Aalto University with EPICES partners: Web – based questionnaires for 13 EPICES teachers and 20-30 students (France, Italy, Spain, Latvia, Finland)
- Study a) The role of the teacher in facilitating student learning and match this with b) how the students feel that teachers are performing as facilitators
- Started 17.2.2015 – currently ongoing, finish May 2015
- So far 5-8 teachers have replied (questionnaires 1 and 2) and 9 students, the study is ongoing
- Very preliminary data, can not yet correlate individual teacher replies with student replies for each course

# IMPORTANT LEARNING OUTCOMES: PRELIMINARY DATA

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## **TEACHERS (n=5 so far)**

- Scientific knowledge
- Designing and carrying out a plan
- Ability to interpret, think critically
- Reason logically, act according to plan
- Form reasoned judgement and defend scientific argument
- Collaborate in teams
- Communicate in writing and verbally
- Take into account temporal context

## **STUDENTS (n=9 so far)**

- Scientific knowledge
- Understand Links between disciplines
- Formulate clear research problem
- Understanding technology and character of your own field
- Ability to interpret, think critically
- Reason logically, act according to plan
- Form reasoned judgement and defend scientific argument
- Communicate in writing and verbally
- Collaborate in teams

# TEACHERS' VIEWS: SOME CONTRADICTIONS

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## **TEACHER SELF-VIEW OF ROLE AS FACILITATOR**

Teachers state that they do not give direct replies or solutions, and find solutions together with students

## **BUT THIS CONTRADICTS WITH !**

Teachers also reply that they must be in control, continuously check on progress, give examples of how solutions could be obtained and seem to have a strong need to control the student work