Lunch and Learn Event

IMPROVING (ENGINEERING) STUDENTS' MOTIVATION AND LEARNING OUTCOME: **INTEGRATION OF CREATIVITY TECHNIQUES INTO TEACHING**

SDU CHET PROJECT TEAM
PATRICIA WOLF, MARIANNE HARBO FREDERIKSEN AND MAXIMILIAN JOSEF BERNHART
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Program

12.00-12:30	…welcome
	… introduction to the CHET project (Patricia)
	… live platform presentation (Max)
	… full creativity workshop with CHET methods (Patricia)
12:30 – 12:55	… examples from the participants and interactive discussion
12:55 – 13:00	… event evaluation

About CHET

CHET (Creativity for Higher Education Teachers)

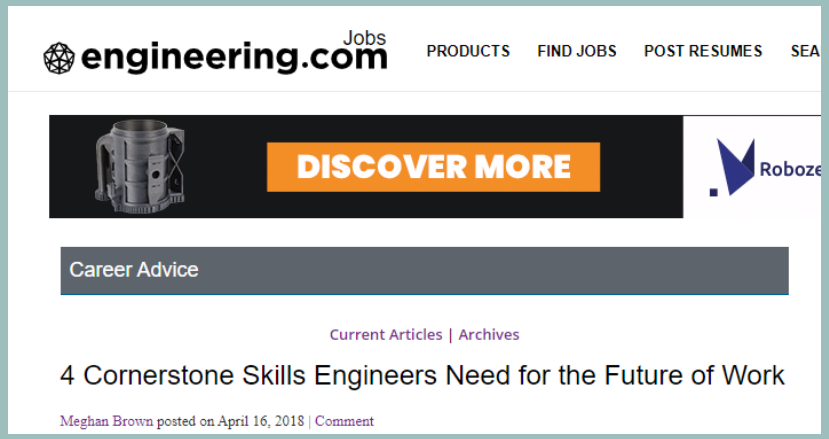
…is a European project funded by the ERASMUS + program of the European Commission.

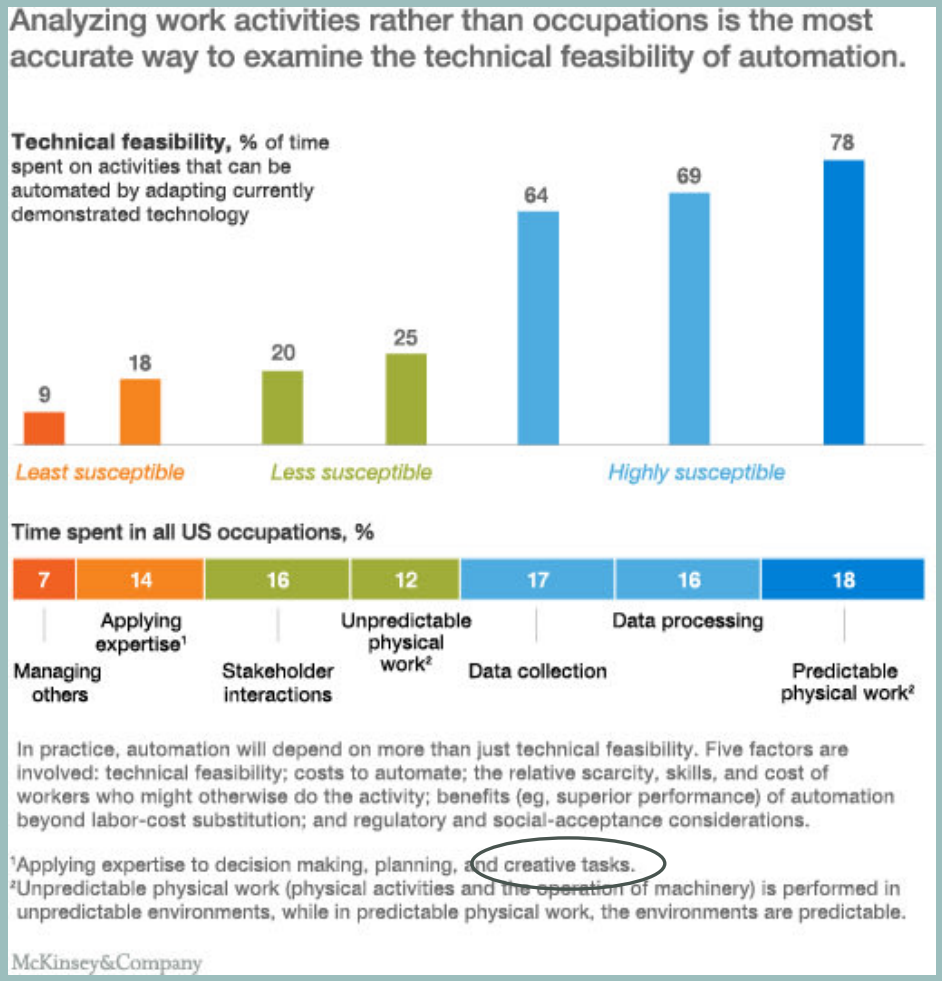
…aims to provide Engineering teachers with skills and competences to integrate creativity and innovation in their teaching activities.

…promotes the use of new methodologies and learning models that enhance creativity and innovation in Engineering degrees by

- developing materials and resources, through the CHET e-learning platform, which will allow teachers to implement new teaching / learning approaches based on creativity and innovative thinking.
- encouraging cooperation among universities, educational authorities and engineering professors.

Why is creativity an important skill?





Needs analysis design in CHET: Delphi study

An iterative process used to **obtain consensus** by collecting the judgments of an **expert panel** or using a series of questionnaires interspersed with multiple feedback and discussion rounds.

The procedure is **anonymous** and can be written or online-based as well as staggered or real-time. (e.g. Thangaratinam and Redman, 2005; Brill et al, 2006)

Application in CHET:

- **Experts:** Engineering higher education teachers
  - from Spain, Turkey, Denmark and Lithuania
  - teaching experience at engineering university faculties
- **Form:** Online questionnaire in two rounds (follow-up questions in second round)
  - First round: 101 participants
  - Second round: 66 participants

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Major findings:

- **97% of the respondents** think that **there is a need** for a training on how to use creative teaching techniques/methods.
- Only **56% of the respondents** believe **that their colleagues use** such teaching methods/techniques.
- **Insights about the contexts and purposes** for which the to be developed training program shall offer creative and/or creativity teaching methods:
  - Most respondents will use the techniques in a **classical teaching setting**
  - **16%** request that the methods should fit **team collaboration settings**
  - **22%** long for creative techniques that enable **mindset shifts** and **innovative thinking** of their engineering students
  - The training should **build on experiences and extend them**, focusing on less frequently used methods/ techniques related to **experimentation, gamification, and creativity**.
- The majority wants a course with **formal exams and certificates**.

CHET Curriculum

Duration of the program: The program is set as 3 units and can be completed between 18 to 25 hours.

Program Content

The process of taking the modules and their lectures is independent of each other, but they complement each other.

- Unit 1: Introduction to Creativity (6-8 hours)
- Unit 2: Creativity Techniques Toolkit (The Toolkit; 6-8 hours)
- Unit 3: Creativity and Technology in Teaching (6-8 hours)

Assessment and evaluation

The assessment methodology to be used to evaluate whether the HE teachers have acquired the skills is based on quizzes which are included in each module and the quizzes are expected to be solved when the module training is completed.

HOW DOES THE CHET TOOLKIT LOOK LIKE?

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Categories and their options

1. Creativity techniques for communication & motivation
2. Creativity techniques for critical and lateral thinking
3. Creativity techniques for problem solving
4. Creative assessment and evaluation techniques

Whiteboard or similar
Paper
Coloured pencils/markers
Sticky notes
Other

Size of the group: Up to 15
Group of 15-25
Groups with more than 25

Digital/online
Face-to-face

Classroom activity
Collaborative team setting
Self-work by students

0-30 min duration
30-60 min
1-2 hours
> 2 hours

Group activity
Individual activity

Theory-based classrom activity
Practice-based acitivity
Undetermined

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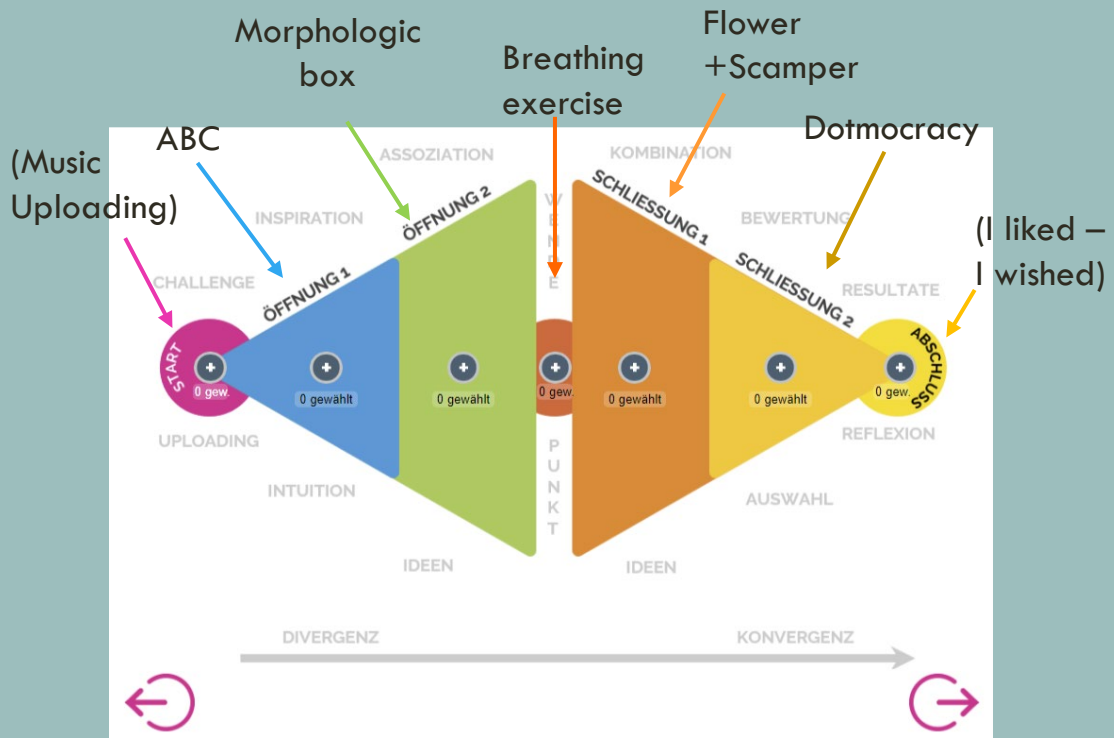

Graphic of creativity process from becreate.ch
All methods are on the CHET platform

The CHET platform

How do you like it? Is it useful for your teaching? Is it appealing?

Your experiences with teaching creativity

What works well for you?

What is a challenge?

What about teaching creativity online, vs. classroom settings?

WHAT WE SUGGEST TO DISCUSS