ETALEE

Hands-on Session:

Design Thinking as a tool for the design of Engineering Education

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Today engineering problems are going from more rational problems to complex and wicked problems. Knowledge and skills are so specialised that not each engineer can be on top of all the required knowledge and skills to solve these problems. Thus engineers are more and more challenged to work in multidisciplinary teams on hybrid problems. To create an educational environment in which the knowledge and skills can be acquired, we as educators should similarly adapt our educational methods for the design of these learning environments. Design thinking for Education offers excellent tools to go through the design cycle visualising and imagining new and innovative educational realities that will address the future of the professional Engineer.

Design thinking is a tool that allows:

- empathy to become leading in exploring new contexts
- creativity of multidisciplinary teams to generate new insights and solutions and
- analysis and assumption testing to find out which solutions work.

Iteration, failing fast and often become key ingredients to find the right mix of educational methods to address the problems future engineers will be facing. In this hands-on pressure cooker session you will redesign your own learning environment for the teaching of future engineers on the basis of a number of design thinking tools and go home with a conceptual idea of what your course could look like in the future.

Sources:

Kamp, A. (2014), Engineering Education in the Rapidly Changing World, Rethinking the Mission and Vision on Engineering Education at TU Delft, Delft

Jeanne Liedtka and Tim Ogilvie (2011), Designing for Growth, Columbia University Press

IDEO, Design Thinking For Educators Toolkit, IDEO Books