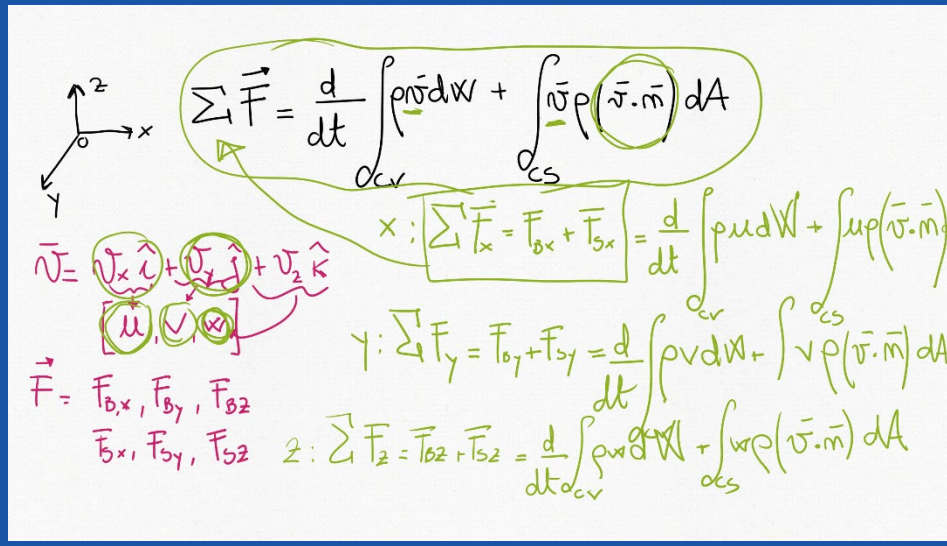
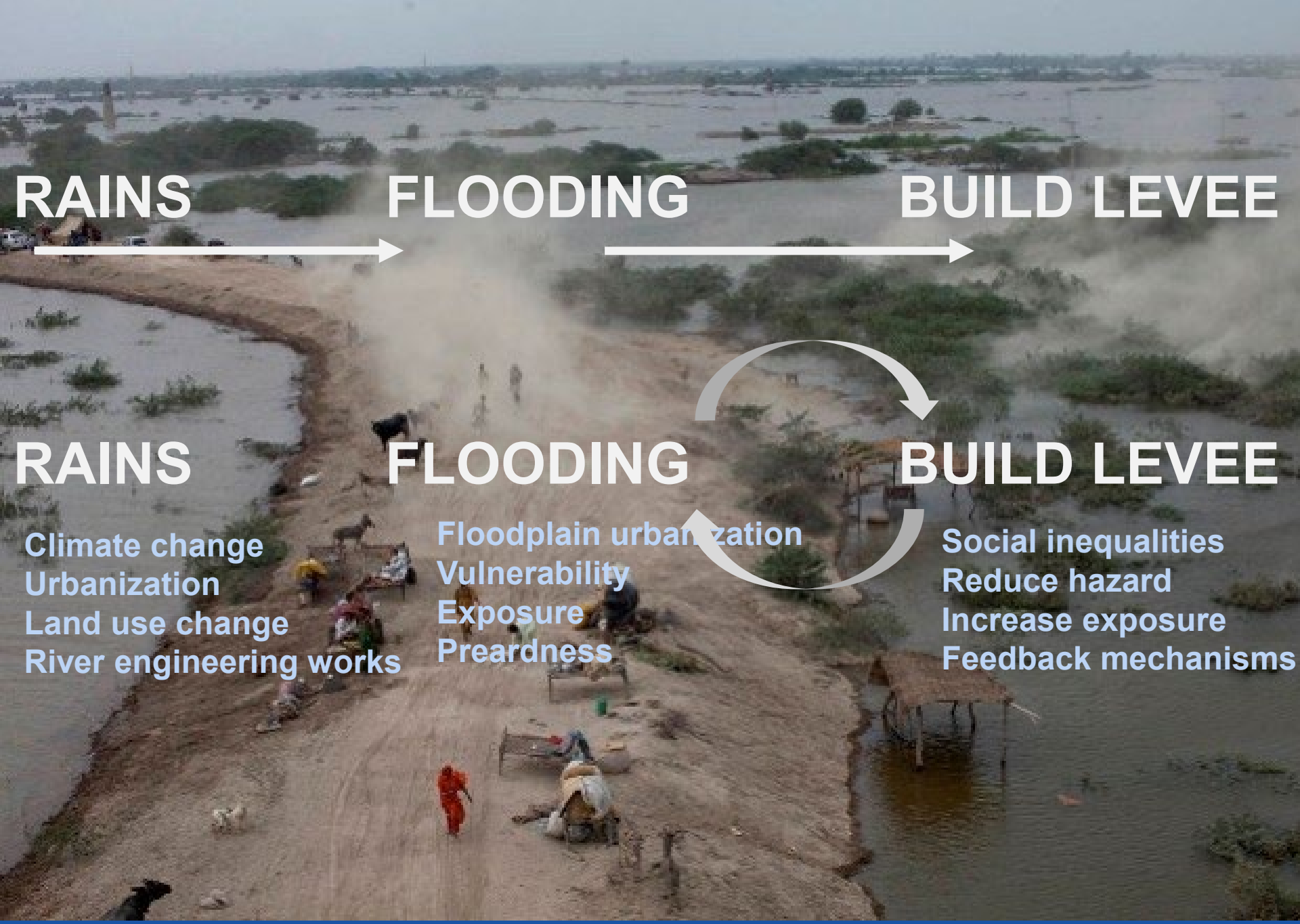
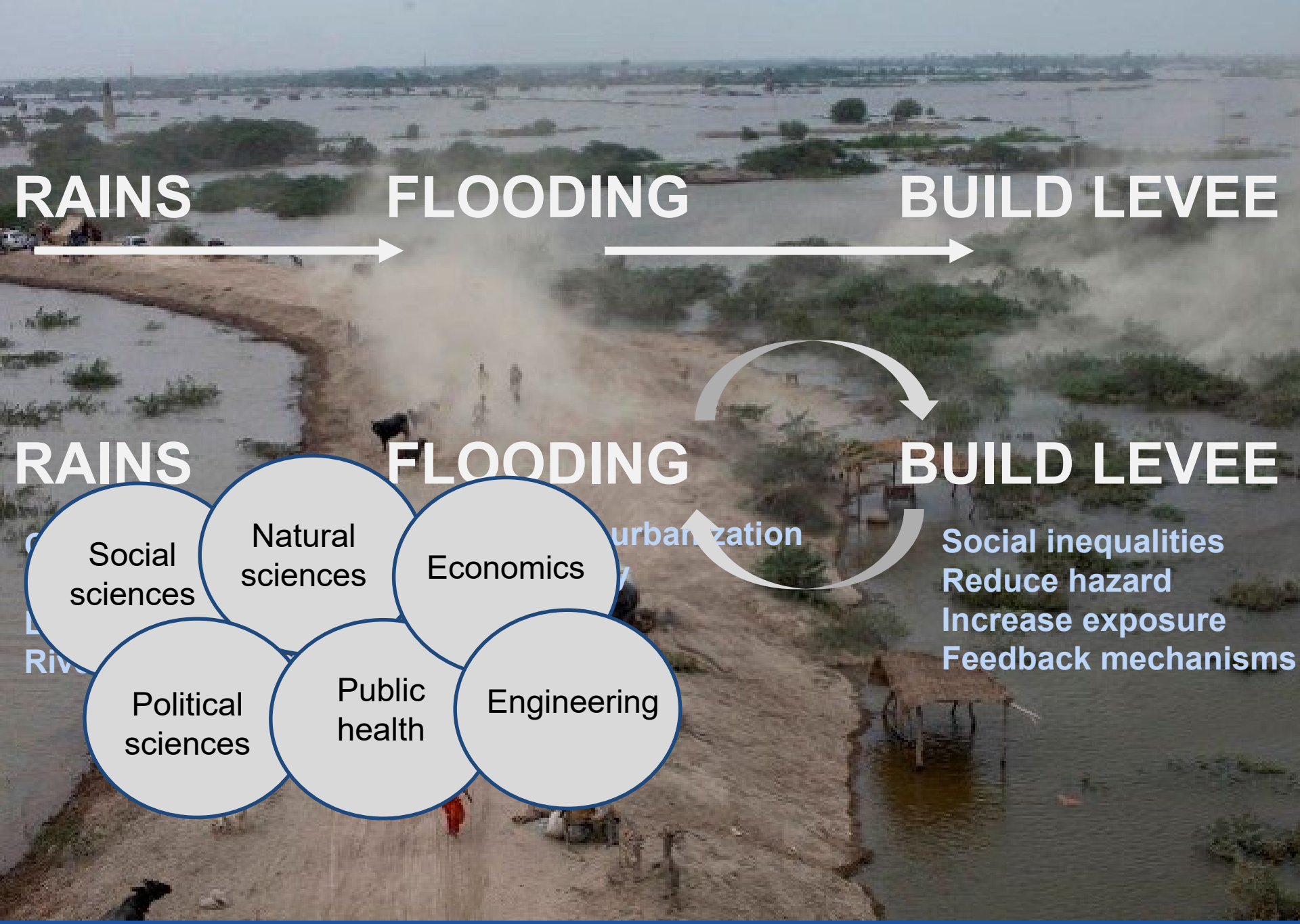
CROSSING BORDERS

KTH Storträffen - May 26, 2023

Luigia Brandimarte – ABE/SEED




RAINS
FLOODING
BUILD LEVEE
RAINS
FLOODING
BUILD LEVEE
Climate change
Urbanization
Land use change
River engineering works
Floodplain urbanization
Vulnerability
Exposure
Preardness
Social inequalities
Reduce hazard
Increase exposure
Feedback mechanisms


RAINS
FLOODING
BUILD LEVEE
RAINS
FLOODING
BUILD LEVEE
Social sciences
Natural sciences
Economics
Political sciences
Public health
Engineering
urbanization
Social inequalities
Reduce hazard
Increase exposure
Feedback mechanisms

CURRICULUM LEVEL

Extra discipline skills, knowledge, attitude

Rooted foundation in own discipline

CURRICULUM LEVEL

Extra discipline skills, knowledge, attitude

Holistic approach to societal needs

Awareness of wicked problems

Skills to collaborate with other disciplines

Exercise flexibility and adaptability

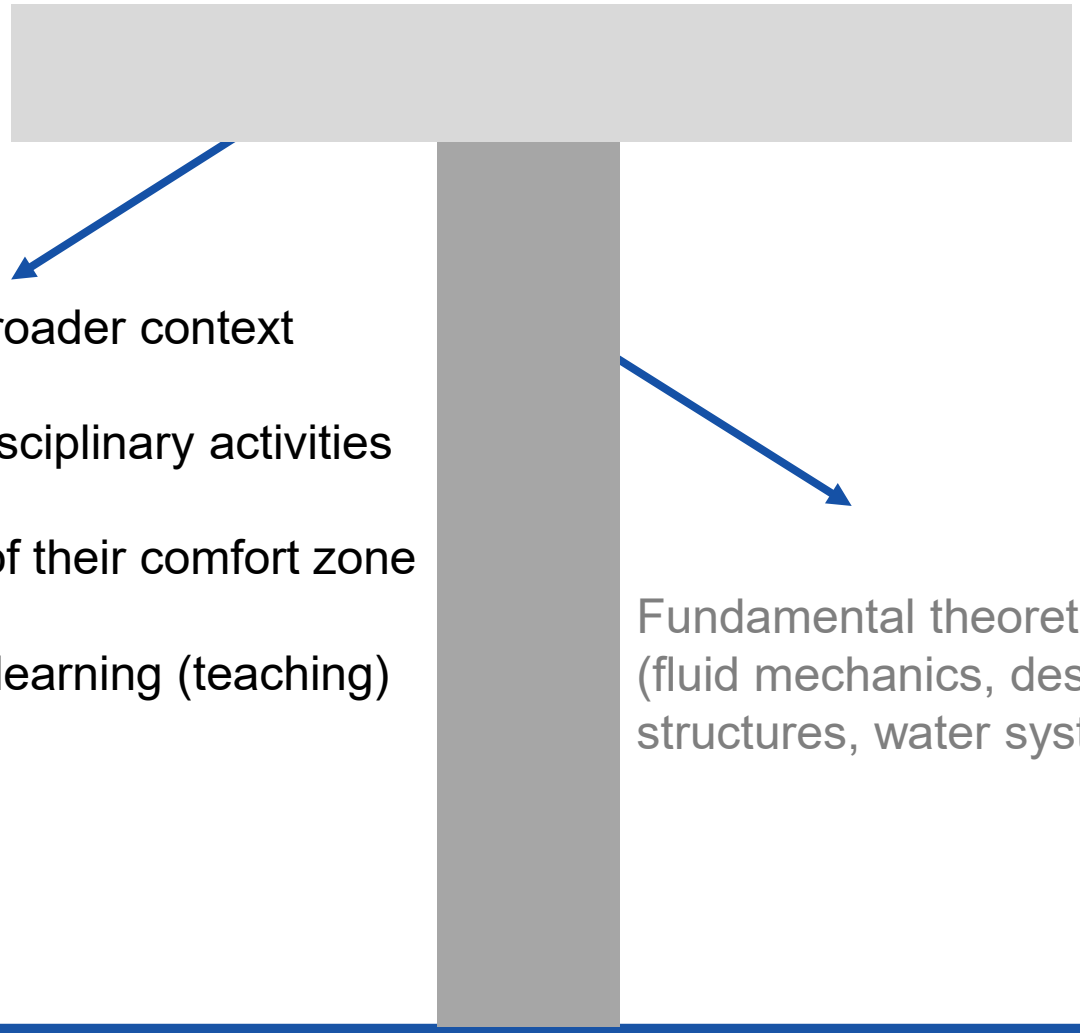
Rooted foundation in own discipline

Resources, time to make room for the horizontal bar

Student ask for **THE** solution, tend to avoid uncertainty, reluctancy to accept broader perspective

What to prioritize?

COURSE LEVEL



Put contents into broader context

Cross-multi-inter-disciplinary activities

Take students out of their comfort zone

Foster creativity in learning (teaching)

Fundamental theoretical knowledge (fluid mechanics, design of hydraulic structures, water system modelling)

fluid mechanics and circus

Alisan Funk, UNIARTS
assistant professor of circus
Head of Circus Arts at SKH

Benjamin Richter, UNIARTS
guest professor of circus/juggler

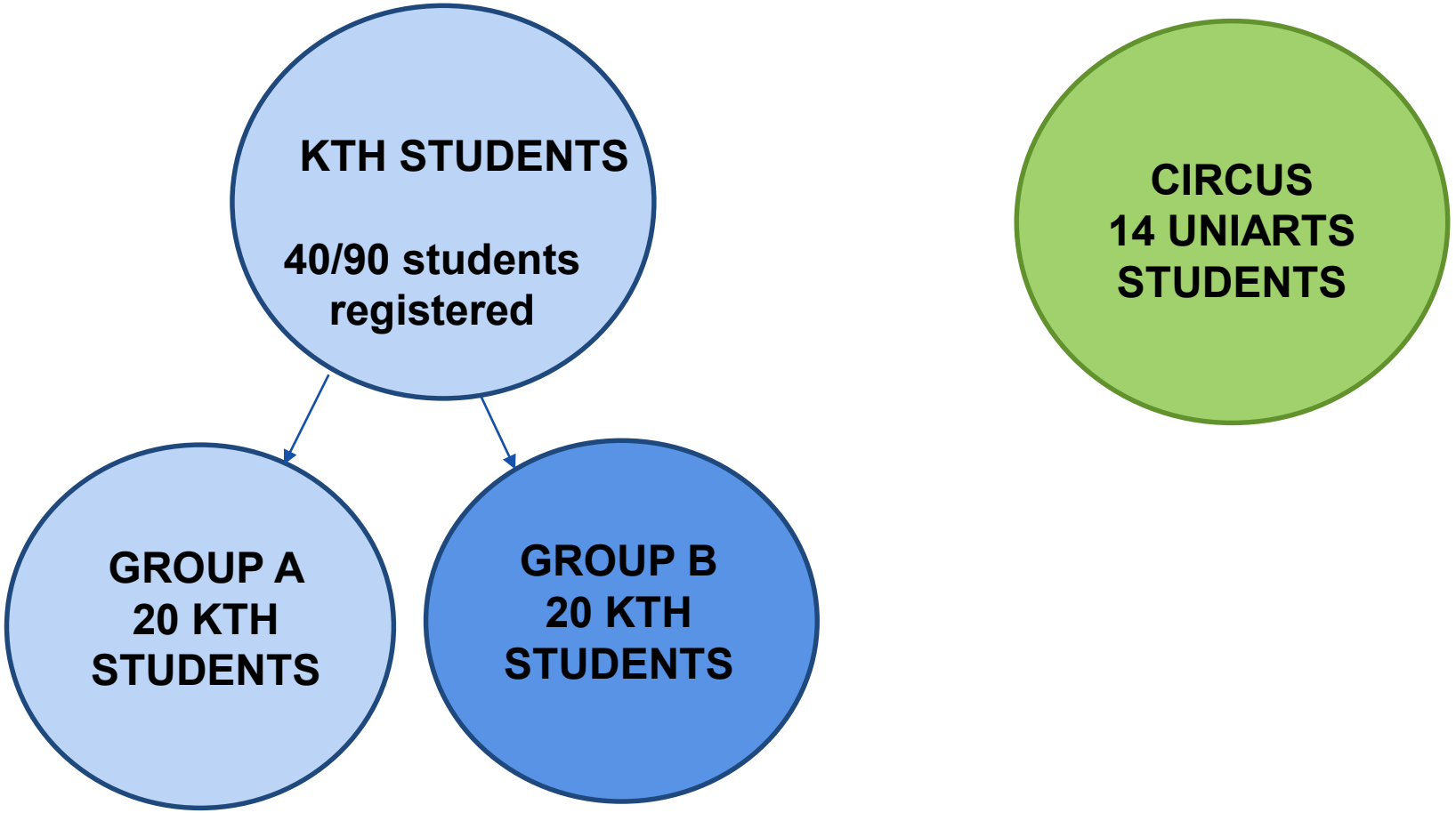
Luigia Brandimarte, KTH
associate professor of hydraulic engineering

fluid mechanics and circus

3rd year KTH students, AE1601/AE1603 Fluid mechanics

1st year SKH students, Performance and Interpretation

SEPTEMBER 2021



Learn by teaching (Docendo discimus, Seneca, 2100 year ago)

you have understood something when you can explain it to someone!

Especially someone with a very different background than yours

>>>creativity in learning

Learn by assessing (Rebecca Welch, FIFA referee)

what you learn in class, should not stay in class!

To exercise what you learn, it is a good practice to transport concepts learned in class to the reality of your daily life

>>>take students out of comfort zone

GROUP A
20 KTH STUDENTS

Learning objectives

Transfer of knowledge
Adapt form of communication

CIRCUS
14 UNIARTS STUDENTS

Learning objectives CIRCUS

Elaborate external input into creative process

GROUP B
20 KTH STUDENTS

Learning objectives

Interpret course contents out of environment

teach

GROUP
20 KTH STU

CIRCUS
14 UNIARTS
STUDENTS

perform

CIRCUS
14 UNIARTS
STUDENTS

GROUP B
20 KTH STUDENTS

assess

MY TAKE HOME MESSAGE

(observation, standard LEQ, feedback meeting, informal chats, Group B reports)

Discomfort of the unknown unpredictability of the creative process

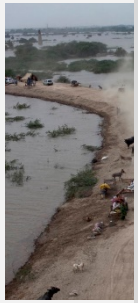
Fluid mechanics is not only formulas

Having fun, no classroom norms as a reaching-out teaching tool (requires different skills)

FUTURE OF EDUCATION

Practitioners need to face problems that have **no longer recognizable** disciplinary boundaries

Wicked problems



Sustainable learning to equip students with flexible and adaptive mindset to face a fast changing job market

provide methods and ***attitude* to learning**

train students to ***be creative in learning***

Deep learning happens at the *border of disciplines*

Fundamental knowledge should be *complemented* by out of disciplinary knowledge; **challenge out-of-comfort learning**

Discussion group

Crossing borders

13:25-13:55, in room Q13

Luigia Brandimarte, KTH
associate professor of river engineering

Alisan Funk, UNIARTS
assistant professor of circus
Head of Circus Arts at SKH

(some) STUDENTS´COMMENTS ABOUT CIRCUS ACTIVITY

*…(I) realised how hard it is to explain something! **Also realised how I didn't understand** some things properly (Group A student)*

*… You had to think of **what the concepts actually meant instead** of just thinking of them as formulas (Group A student)*

*…highly interesting and **creative to learn** in this way (Group B student)*

*…you had to really apply your knowledge to try and interpret the performances and it **showed you new ways of thinking of the different concepts** (Group B student)*