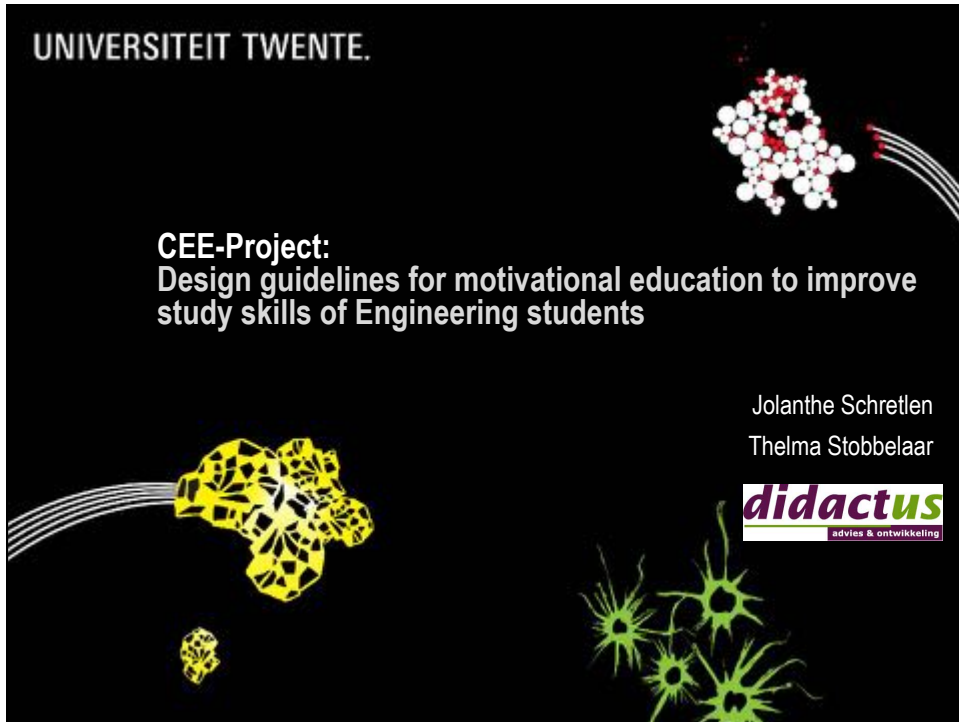


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CEE-Project:
Design guidelines for motivational education to improve
study skills of Engineering students

Jolanthe Schretlen
Thelma Stobbelaar

didactus
advies & ontwikkeling



What are we going to do?

- Introduction CEE - project
 - Mindset: Increasing Learning motivation
 - ASSIST: Identifying (in)efficient learning strategies
- Results Questionnaire
- Interventions

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Mindset

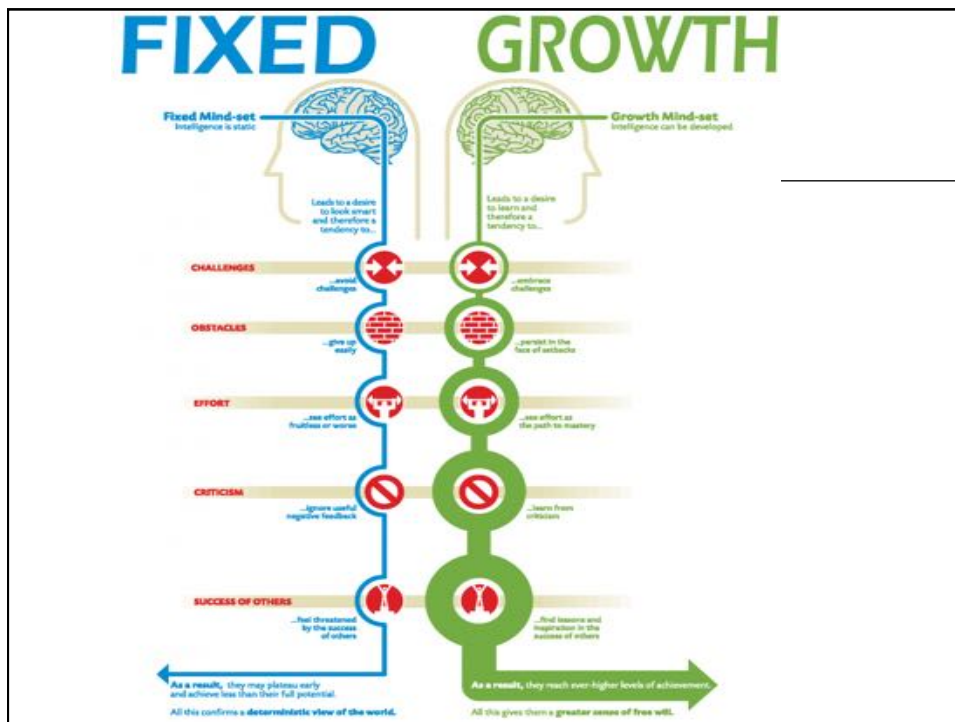
Your **conception** on the developability of your own qualities and abilities, influence how these will develop

Your **conception** on the developability of the qualities and abilities of others, influence how these will develop

Carol Dweck



UNIVERSITY



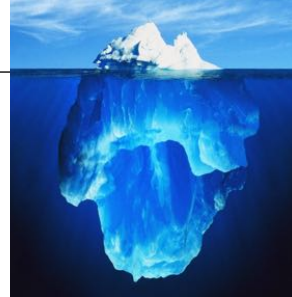
ASSIST

- **Approaches and Study Skills Inventory for Students**
- Validated questionnaire
 - © 1997a Centre for Research on Learning and Instruction, University of Edinburgh

ASSIST

- The ASSIST can be used to help identify students at risk through ineffective study strategies
- Identifies a student's characteristic orientation to studying as either
 - Deep
 - Strategic
 - Surface

Deep Approach



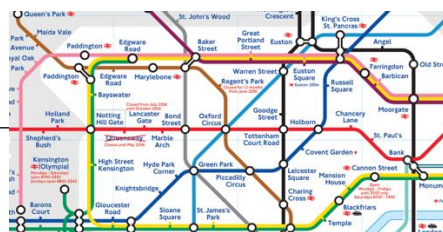
- Seeking meaning
- Relating ideas
- Use of evidence
- Interest in ideas

Learning strategies:

- ✓ *Forming understanding by using a range of learning processes*
- ✓ *Active engagement*

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Strategic approach



- Organised studying
- Time management
- Alertness to assessment demands
- Achieving
- Monitoring effectiveness

Learning strategies:

- ✓ *Attention on details*
- ✓ *Adherence to guidelines for studying and expected test format*

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Surface Approach

- Lack of purpose
- Unrelated memorising
- Syllabus-boundness
- Fear of failure



Learning strategies

✓ *Memorising information*

✓ *Only doing what is necessary for the test*

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Results

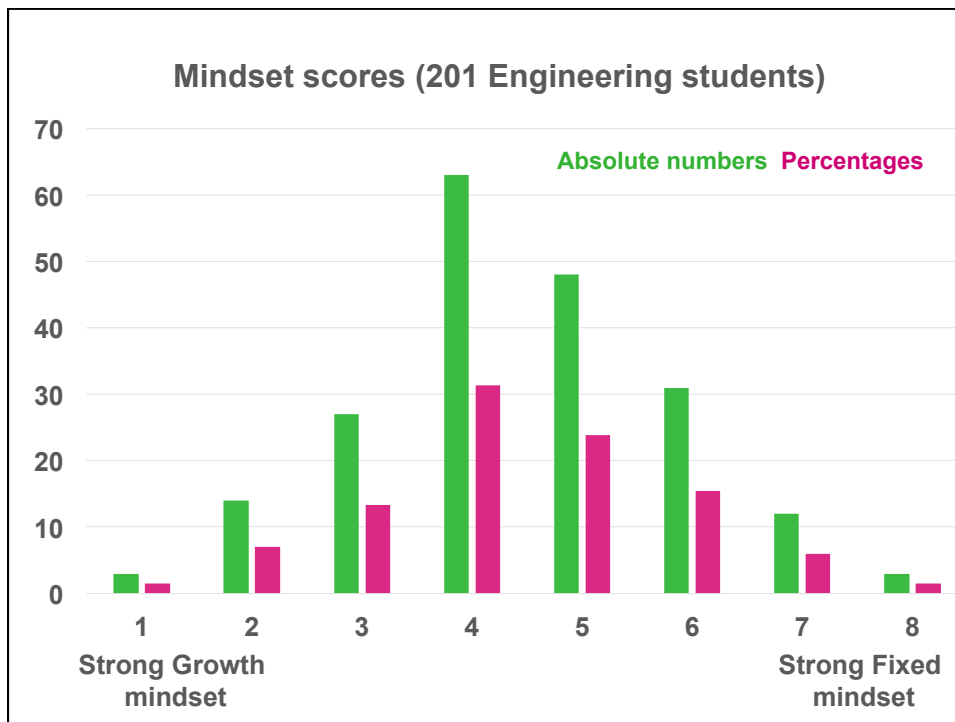
Questionnaire 1st year bachelor students

- Mindset
- Used study strategy/approach
- Learning preference

201 Engineering Technology students
(62 CE, 105 ME, 34 ID)

Analysed and combined with study results and open questions

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Results

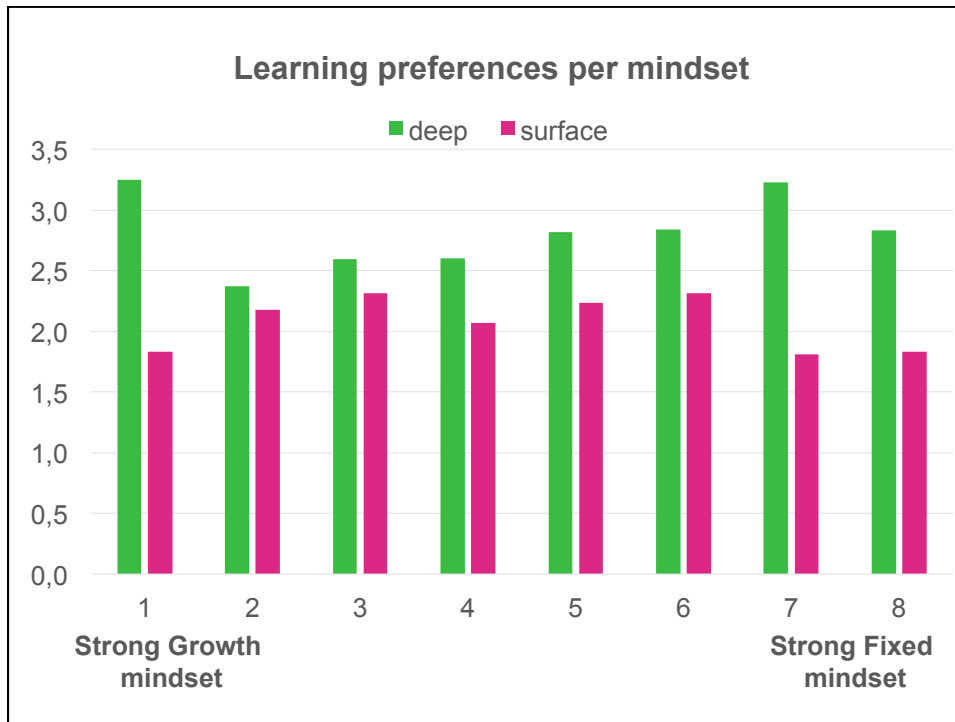
Which approach do students use?

- Deep strategy
- Strategic strategy
- Surface strategy

What type of studying do they prefer?

- Deep learning
- Surface learning

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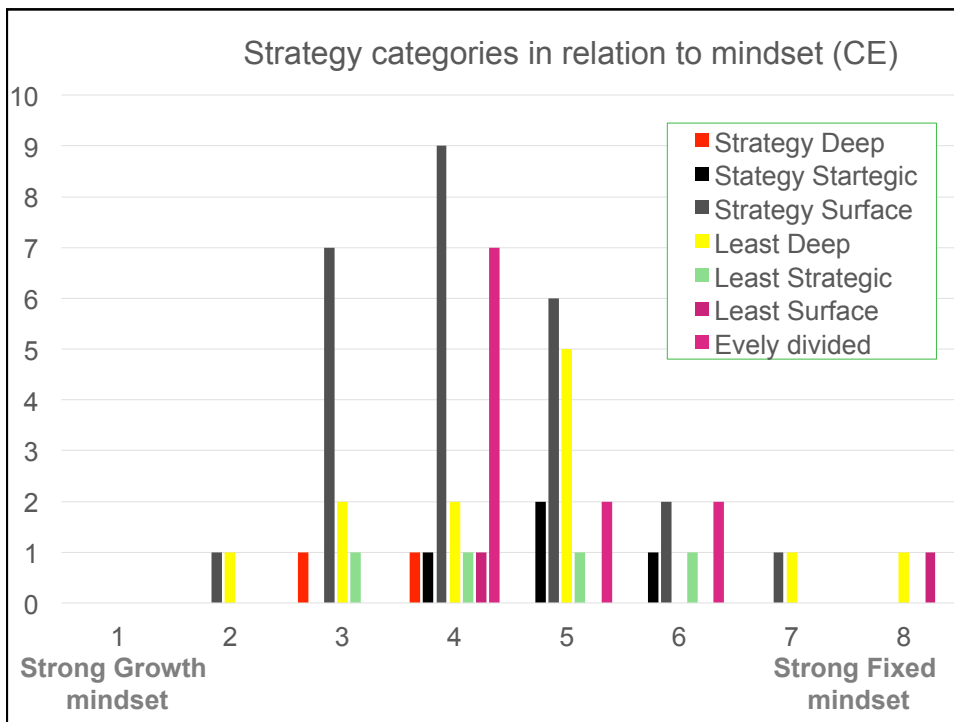
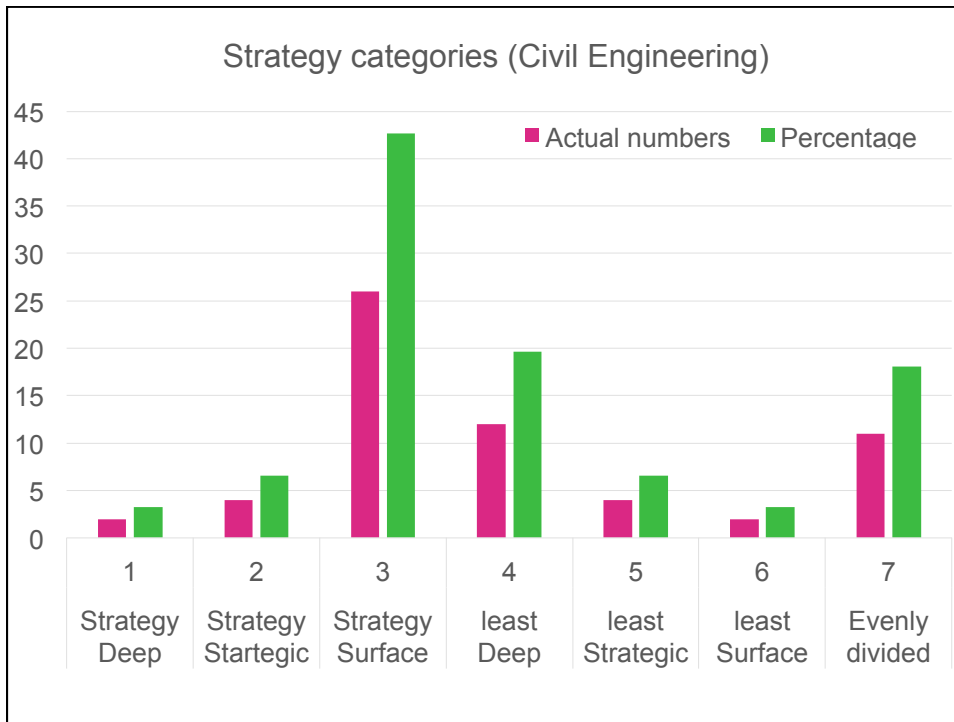
Results

Majority of the students prefer 'deep learning' over 'surface learning'.
Do they manage to execute this?

Results from ASSIST analysed in classes of strategy

Strategy Deep	1
Strategy Startegic	2
Strategy Surface	3
Least Deep	4
Least Strategic	5
Least Surface	6
Evenly divided	7

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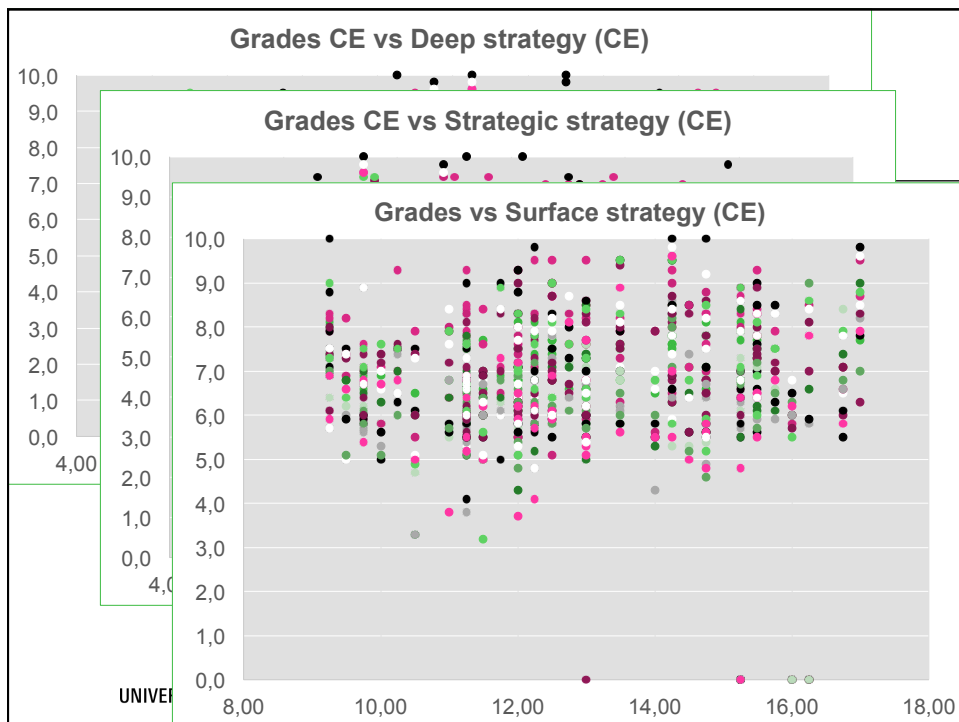
Results

Hypotheses of the project:

There is a relation between the mindset of a student and his/her learning strategy and approach.

And.... a deep learning approach should overall lead to better study results (higher grades).

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Results

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There is a relation between the mindset of a student and his/her learning strategy and approach.

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Results

We still think this is valid....

But it could be that the current results are distorted by the fact that students are struggling with their preference for learning and the actual executed strategy.....

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Discussion

- What do you want from your students?
- How would you like your students to come to deep learning?



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What have we done?

- Brainstorm Academic Skills
- Academic skills:
 - Motivational assignment(s)
 - Portfolio: Individual development of skills



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What next?

- Redesign questionnaire
- Adjust project plan
- November: Questionnaire 1st year Bachelor students
- Analyse these results
- Jan-Febr 2018: design interventions
- June 2018: what are the results?



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Interventions

What would you
advise us?



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THANK YOU



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