



Bouwstenen voor High Impact Learning that Lasts - HILL



Het leren van de toekomst in opleiding en organisaties

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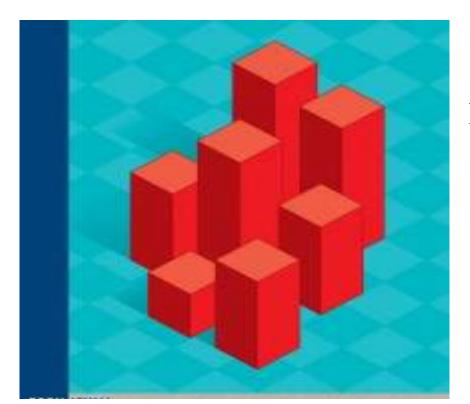


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Jan. 2018

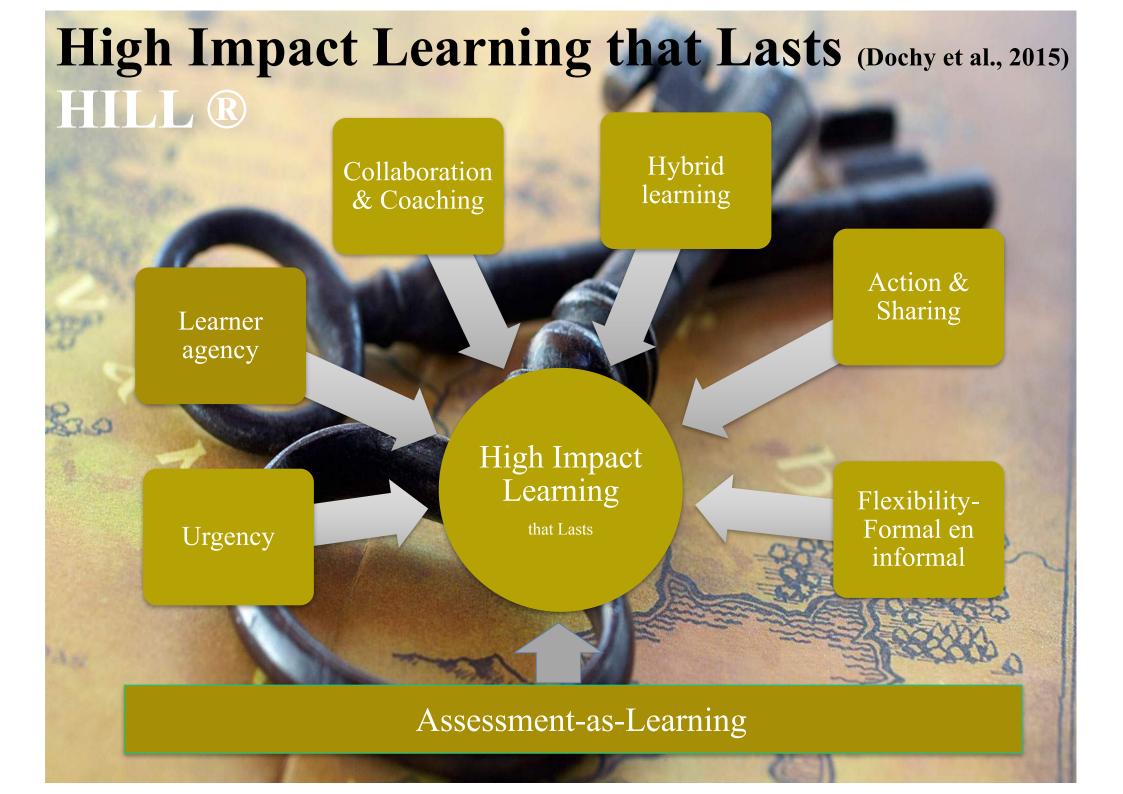


Prof.Dr. F. Dochy



Prof. Dr. M. Segers

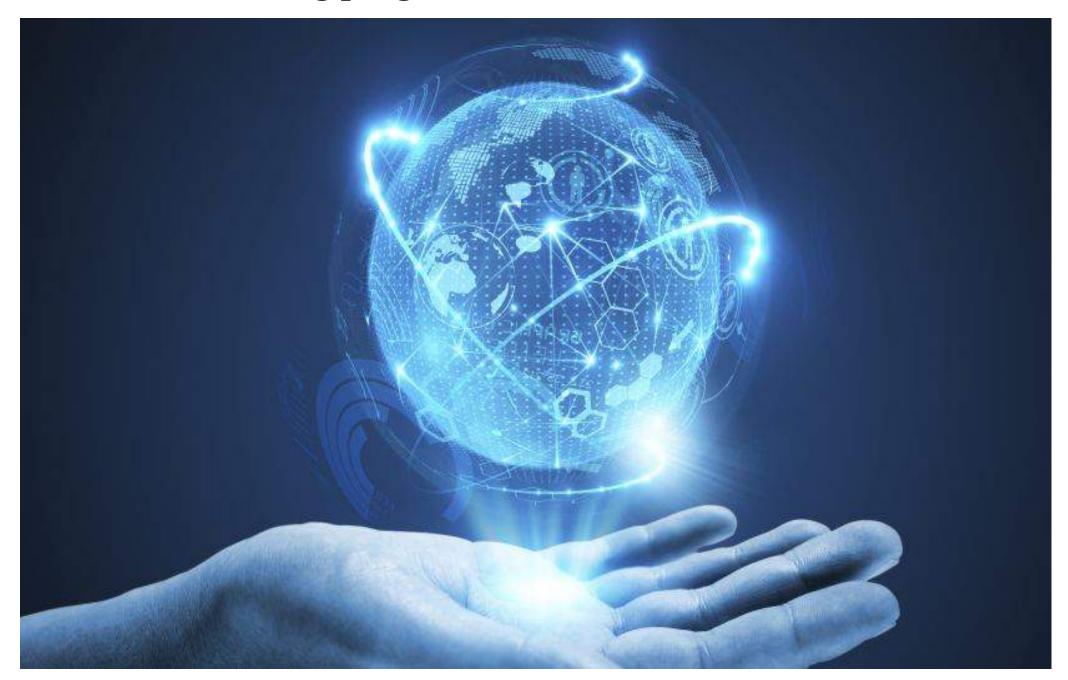




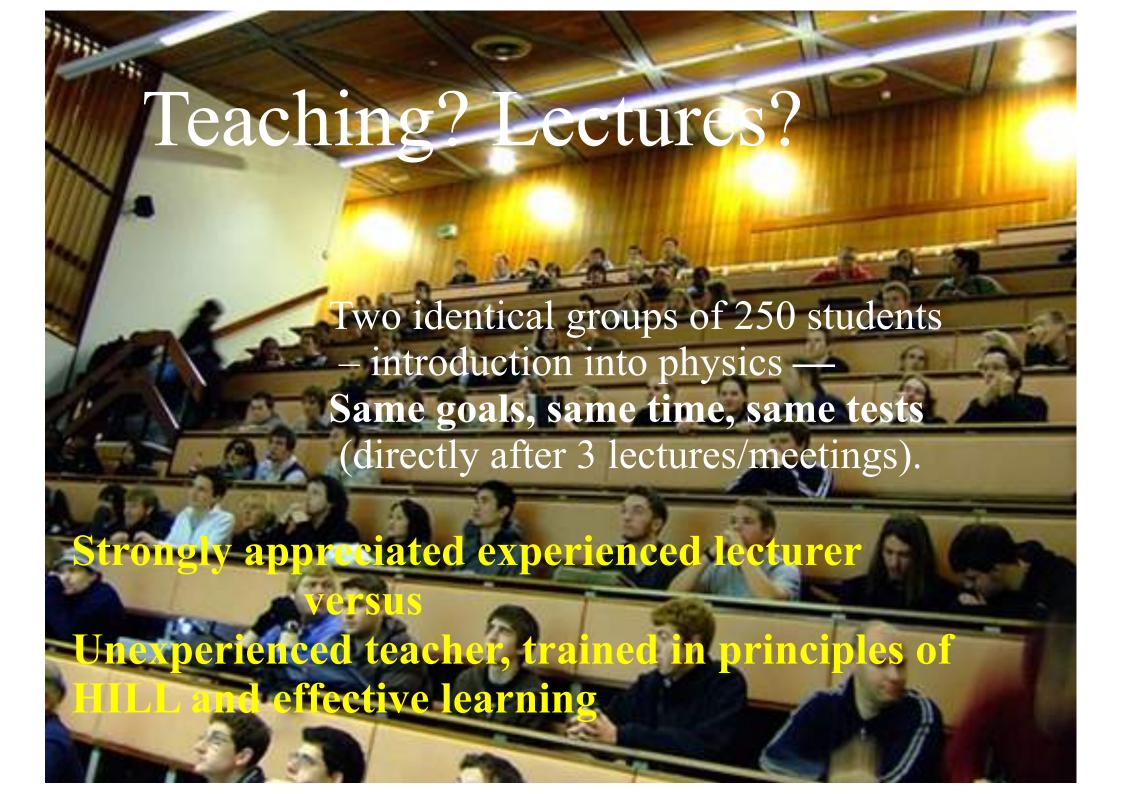
CONTENT

- 1. Research on learning
- 2. The future of L&D: High Impact Learning!
- 3. How to use in everyday curricula?

Training programmes for our new millenials!







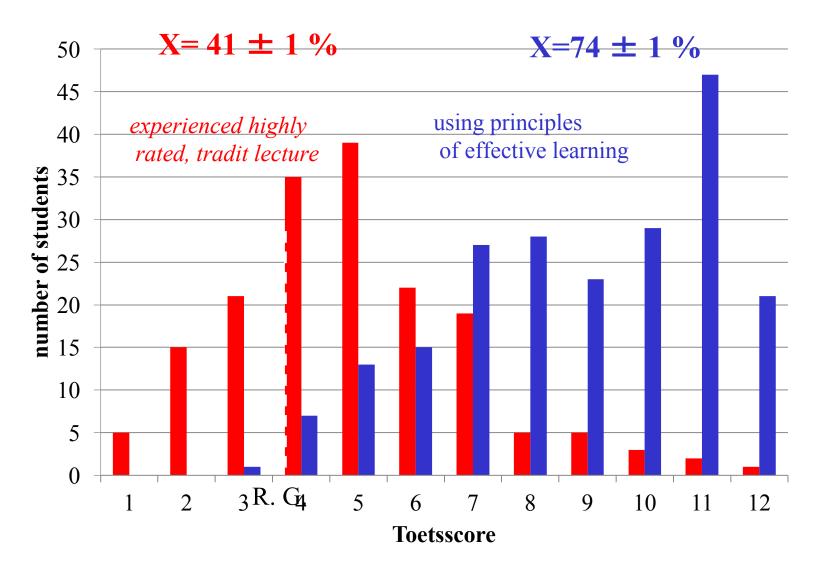
Approach with diverse HILL elements:

(Deslauriers, 2011)

- pre-class reading assignment (4 pages)
- student-student discussions,
- small-group active learning assignments,
- and goal-directed feedback during meetings



Histogram of testresults



Highly appreciated lecturer, identical populations, identical time, identical tests.

Evidence from science and practice?

Nobelprice winner 2001 Carl Wieman (Stanford University) "~ 1000 scientific studies with students in diverse disciplines and diverse teamsize

- · Show consistently better learning results
- Less failure
- · Advantages for all students, most for students at risk

Examples:

Active learning increases student performance

Freeman, 2014 Univ. of Washington

"To test the hypothesis that lecturing maximizes learning and course performance, we meta-analyzed **225 studies** that reported data on examination scores or failure rates when comparing student performance in undergraduate courses under traditional lecturing versus active learning".

Freeman, Eddy, McDonough, Smith, Okoroafor, Jordt & Wenderoth (2014). PNAS 2014 111 (23) 8410-8415. doi:10.1073/pnas.1319030111

Lecturing increases failure rates by 55% compared to active (HILL based) learning

The data reported here indicate that active learning increases examination performance by just under half a SD and that lecturing increases failure rates by 55%.

In active learning every student scores higher (mean = 6%).

"They all imply students "WORK":

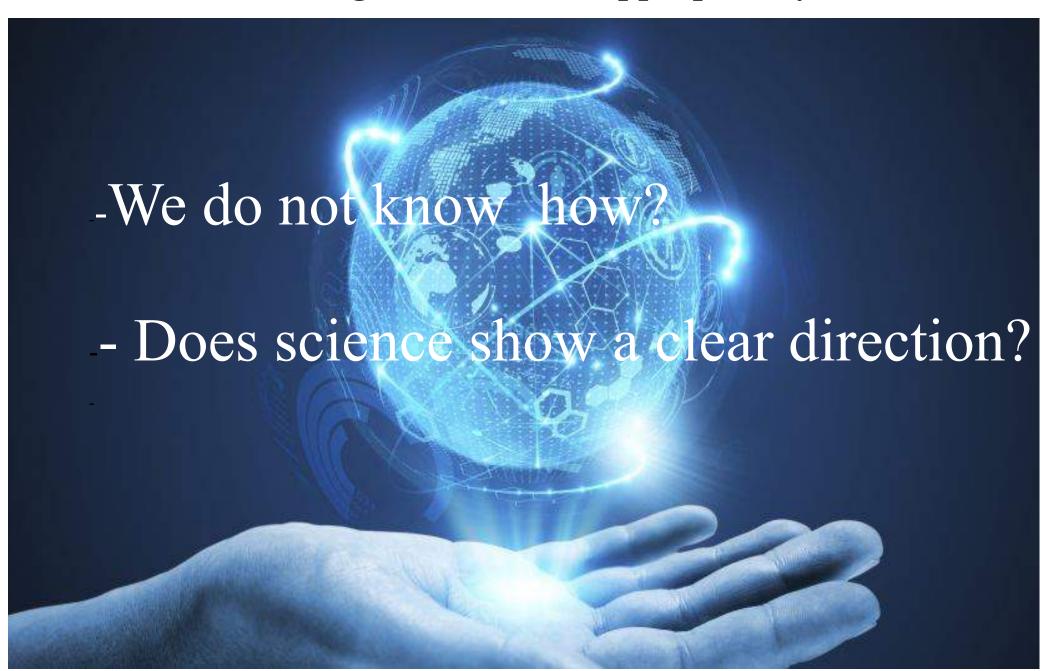
Active processing (self assessment, peer assessment and feedback, collaboration, flipped classroom, exercising)



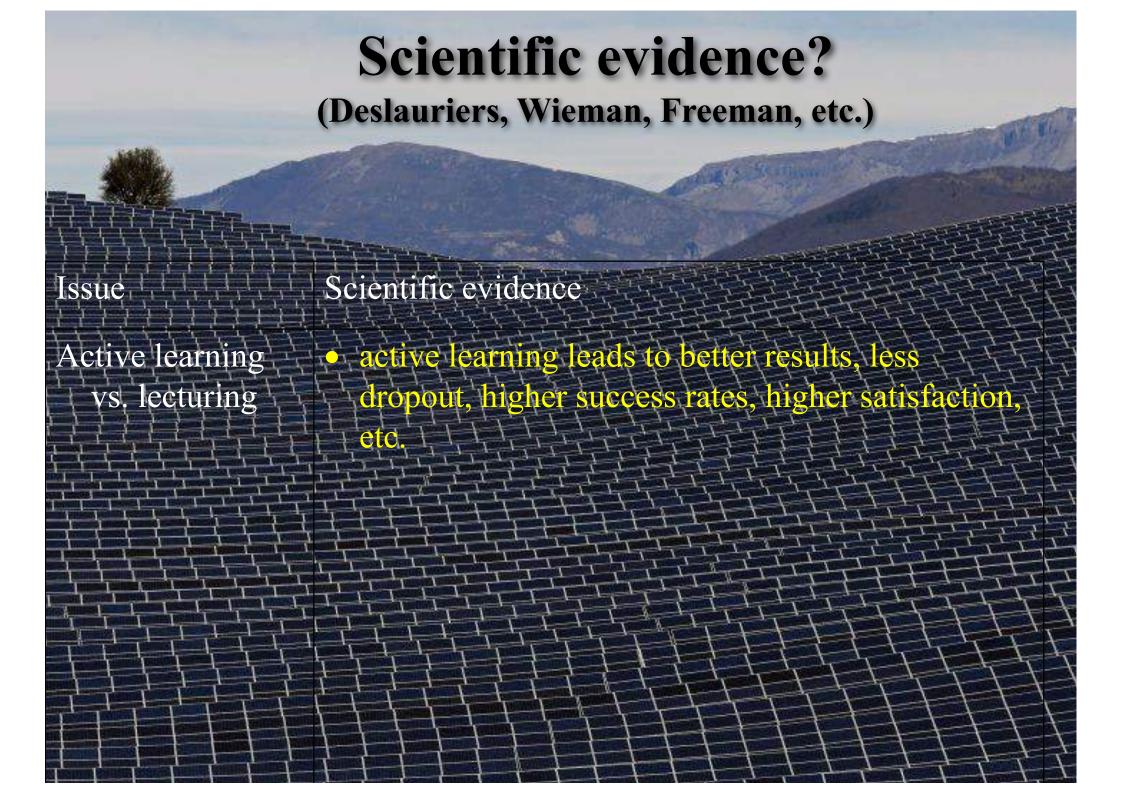


WHY DON'T WE DO THIS?

Training our millenials appropriately!!







• Gibbs, G. (1981). Twenty terrible reasons for lecturing, SCED Paper 8, Birmingham.

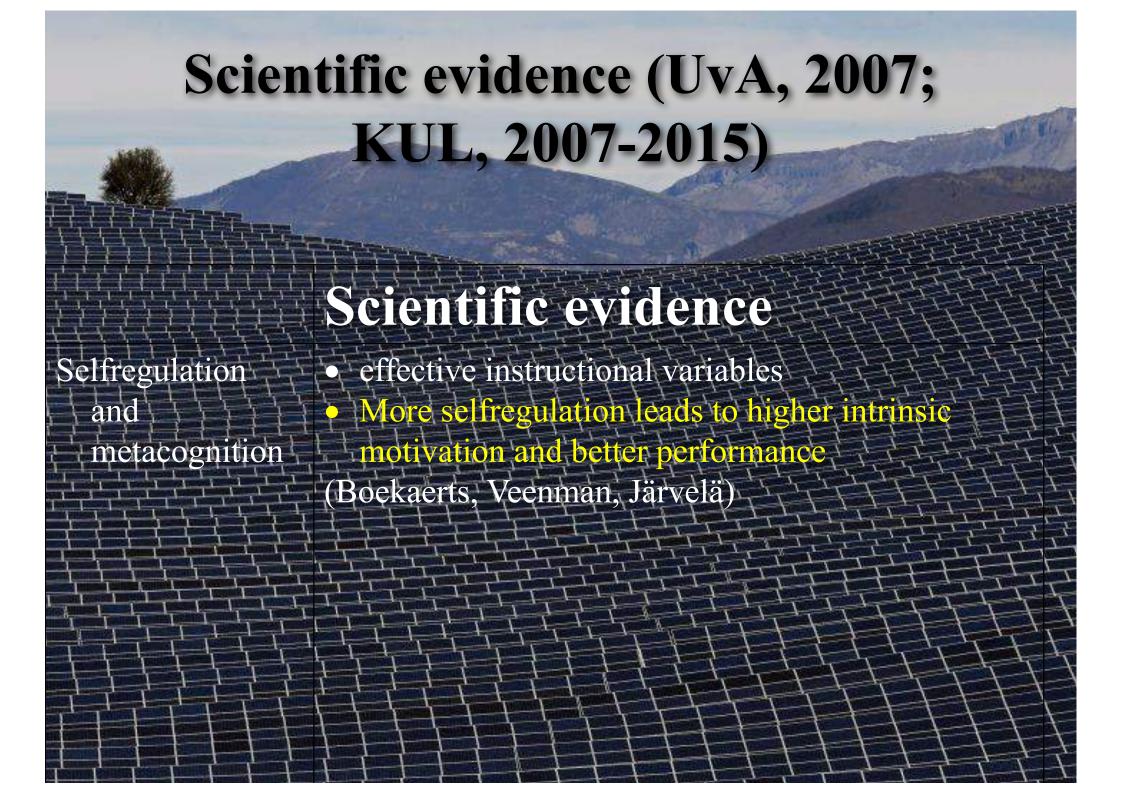
https://www.brookes.ac.uk/services/ocsld/resources/20reasons.html

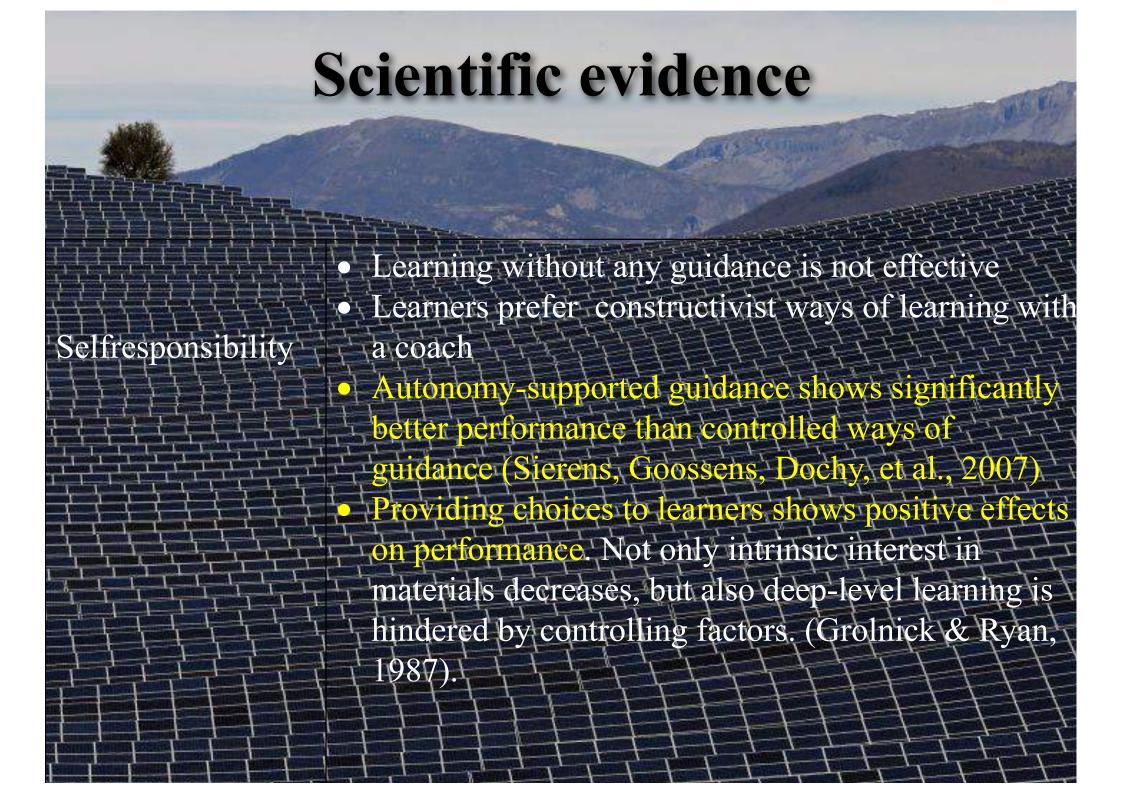


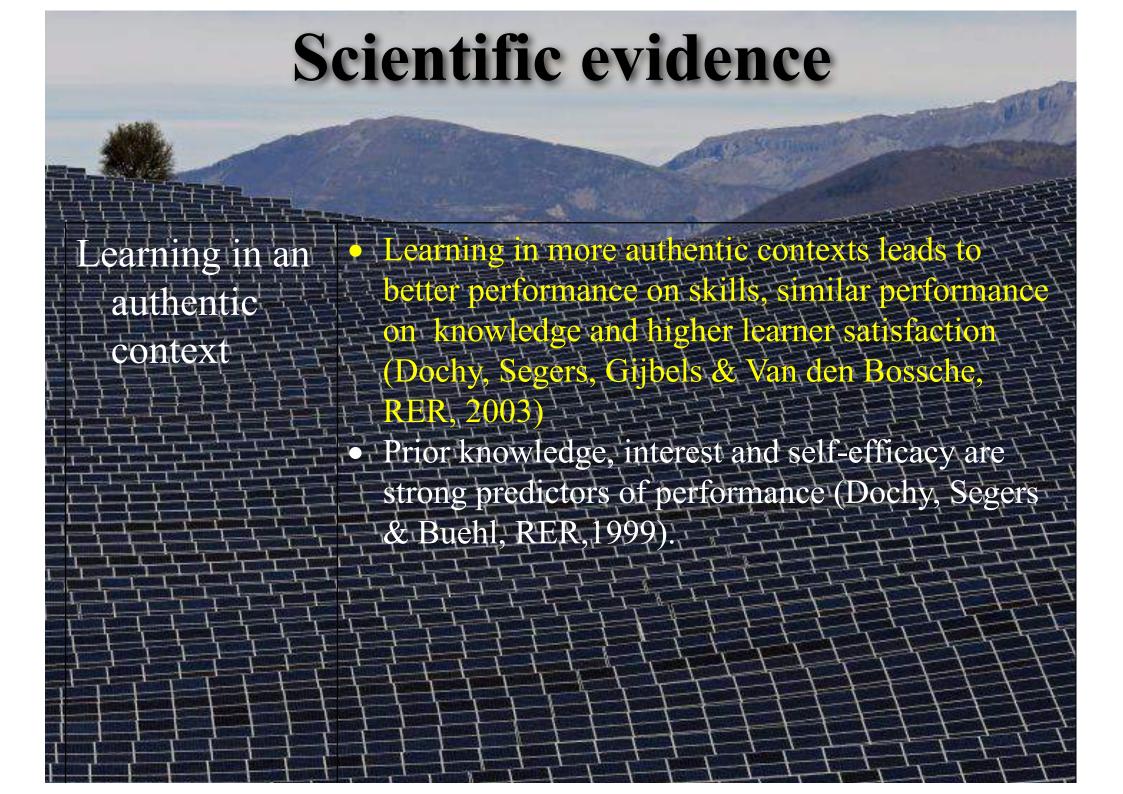
Blah? Traditional lecture classes have higher undergraduate failure rates than those using active learning techniques, new research finds.

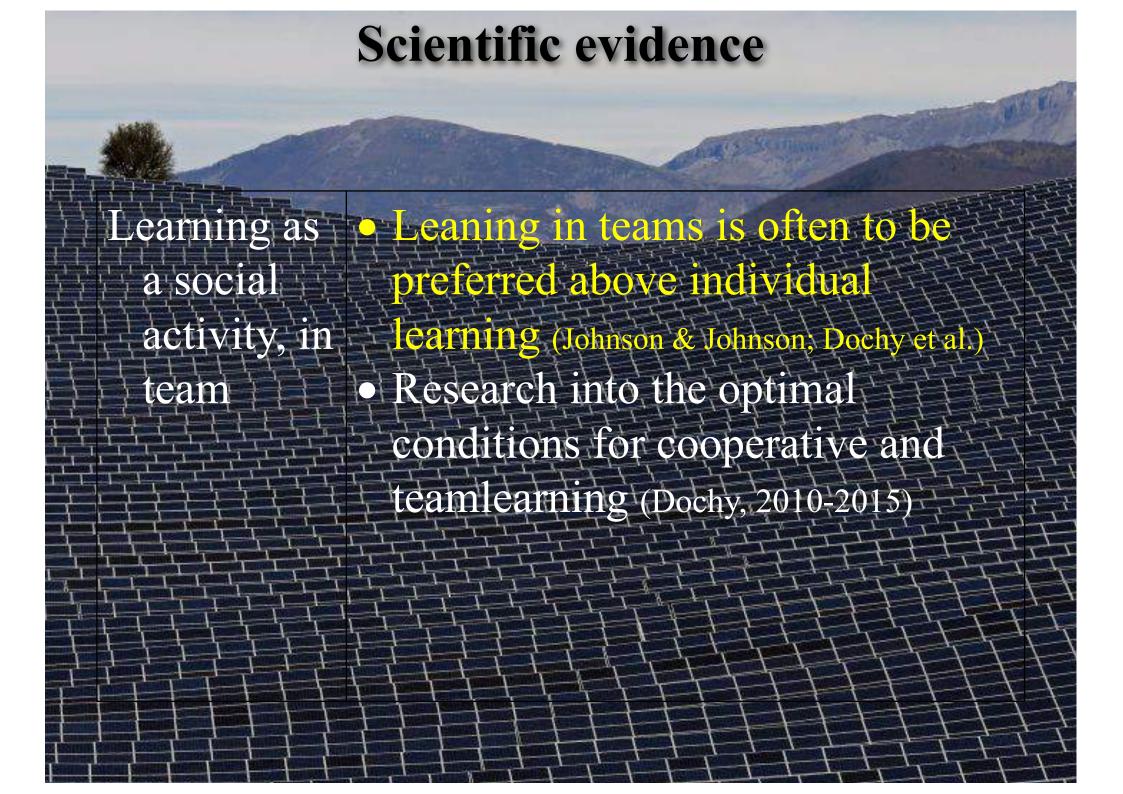
Wikimedia

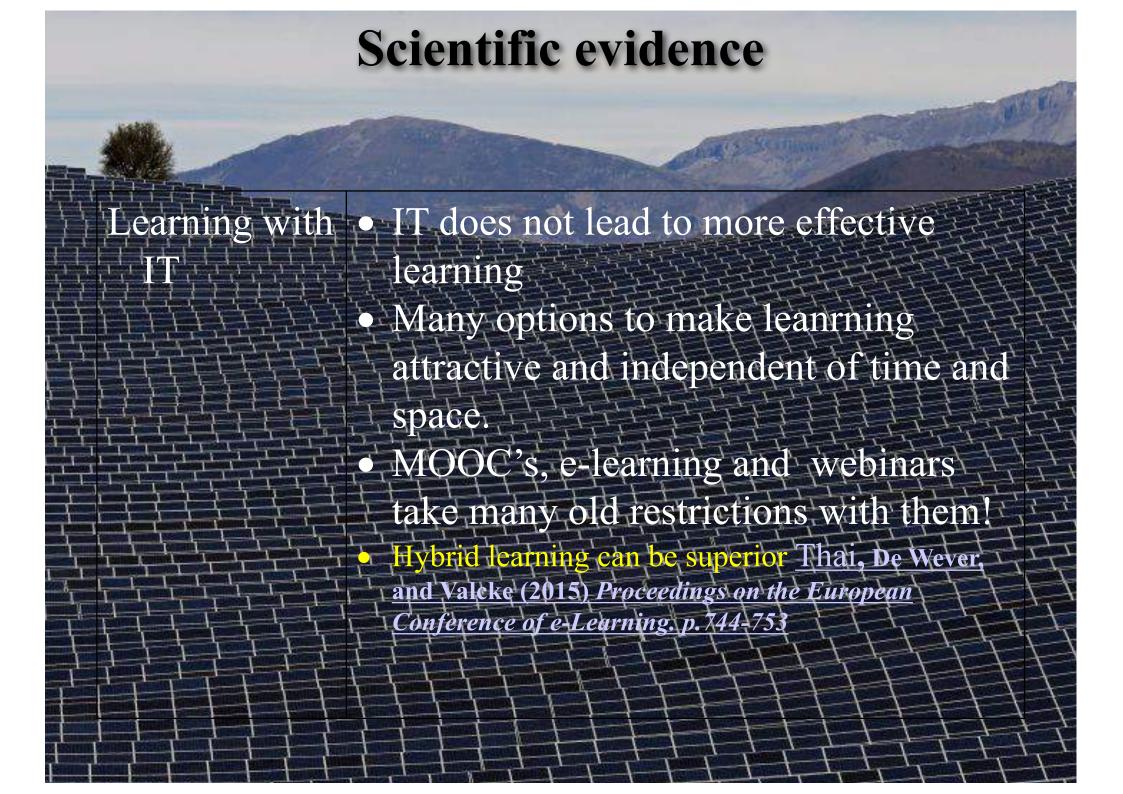
Lectures Aren't Just Boring, They're Ineffective, Too, Study Finds

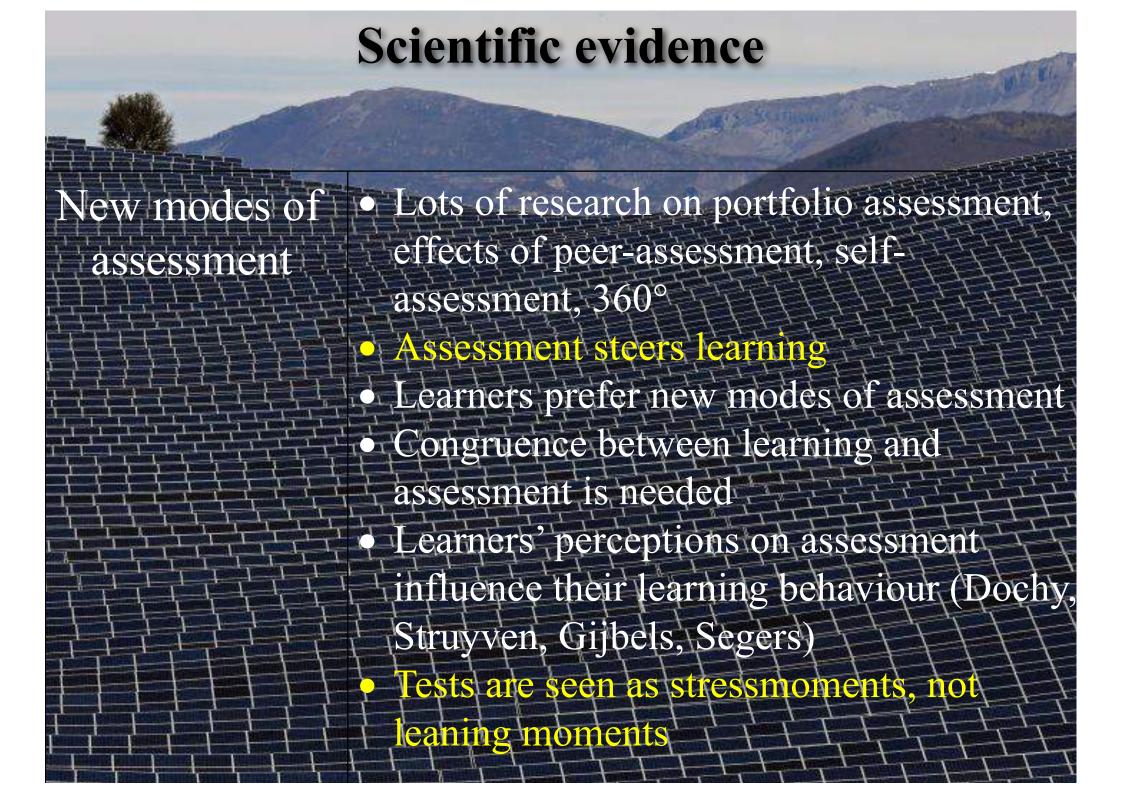


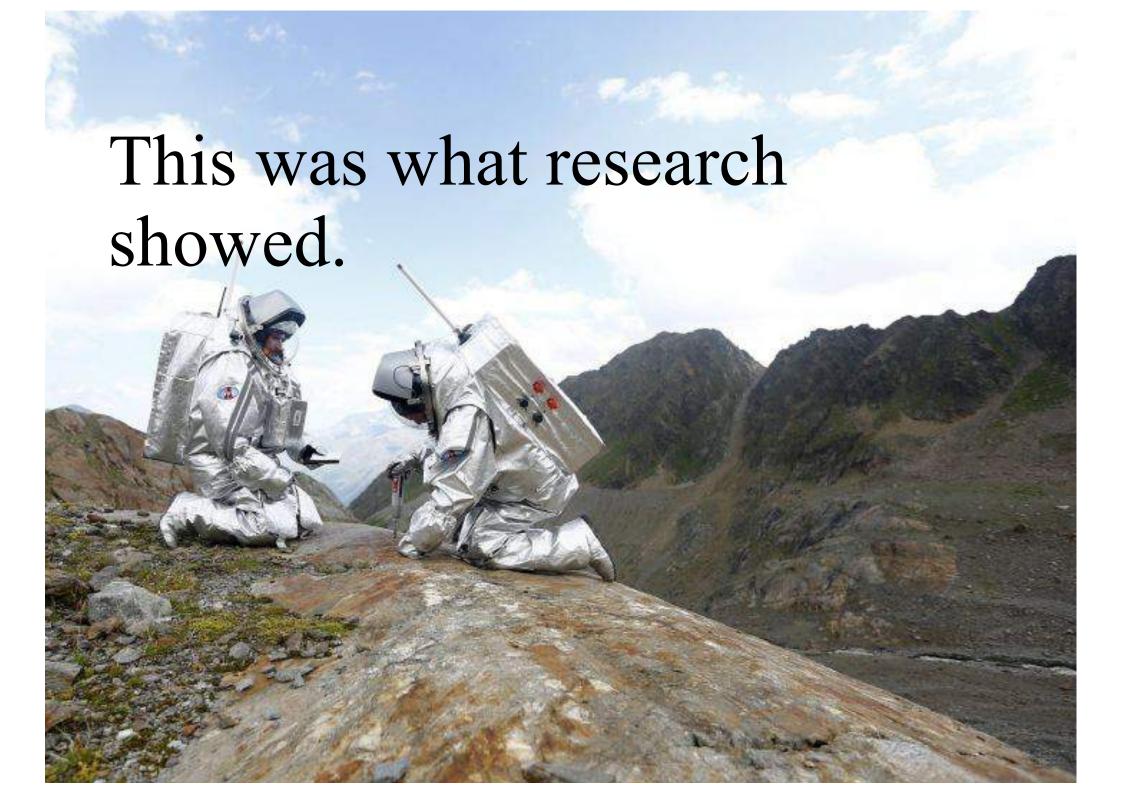














After 25 minutes? Any question?





Changes in learning over X-Y-Z-... generations

- Learning from diverse sources, more from moving pictures
- Learning is not linear, but rather lateral (starting from discontinuous information, available on diverse places and moments)
- Learning in networks: **social, electronic en FtF networks**: explorative and inquiry learning in information network

Which competences (KSA's) does the labour market want and are important according research?



Welke competenties (K/V/A) wil de arbeidsmarkt zelf?

- 1. Content-oriented expertise
- 2. Working in teams
- 3. Lifelong learning
- 4. Perseverance
- 5. Critical thinking
- 6. Entrepreneurship
- 7. Creativity
- 8. Knowledge creation problem solving
- 9. Searching information fast and accurate
- 10. Engagement
- 11. Responsibility





Sense of urgency



Urgency, gap & problem

A sense of urgency triggers maximum feelings of

involvement and Intrinsic motivation

Practical Tips:

- Start with a realistic problem! (Project/case/simulation)
- Use authentic materials
- Identify gap 'as is' and 'to be'
- Search for a strong argumentation that uncovers the problem
- Let the learner experience the problem / urgency
- Learners can explain the gap themselves
- Let the learner find out how the problem can be solved and what is needed



Action & Knowledge Sharing

Learning-in-action implicates
exchanging knowledge or information
(interaction) between individuals in a
group or between groups.

Practical Tips:

- Learning by doing'; flipped classrooms
- Stimulate peer-discussion, interaction.
- Start with individual reflections, follow up with 'small group discussions' and end with 'whole group agreement' (P. Rosseel)
- In a face-to-face setting use round tables, don't work as a teacher in front of a class

Correlation forumactivity – exam scores 2016-2017 Math

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5-6	48	0	48	20	41,7%	9,0
7–8	42	0	42	23	54, 8%	10,1
9–10	22	0	22	14	63, 6%	10,6
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DET-Model

What is a good blend? "The ratio offline and online

Practical Tips for hybrid learning:

Think about alternative ways of blending

Variation is key

Ask feedback about the blend

'Variation is the key of learning'

(F.Marton)

(pure e-learning)

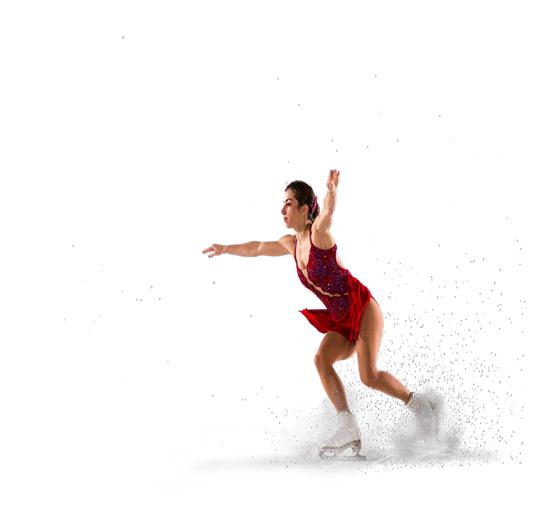
Hybrid learning

Face-to-Face (Traditional learning)

Jse of technology

Time spent on "online learning"

Learner agency



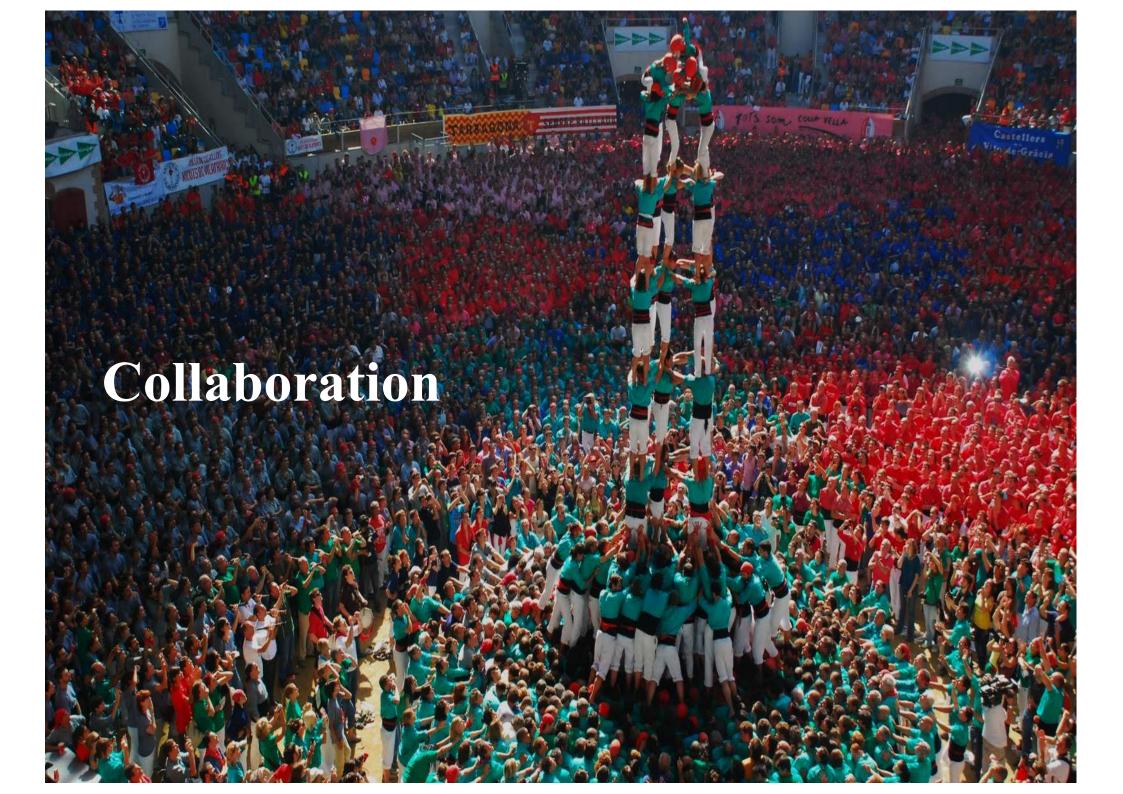
Learner agency

Self-management is a conscious and continuous decision to reflect on yourself.

Learner agency is being responsible for your own choices, your own actions and the consequences for others in your environment.

Practical Tips:

- *Give voice and choice!!*
- Let learners formulate their own learning goals
- Include flexibility in trainings
- Use PDP's/portfolio's
- Stimulate reflection
- Give critical, but constructive feedback
- Make sure you build a Learning Culture: It's okay to make mistakes and learn from them.



Collaboration & coaching



Practical Tips:

- Facilitate and stimulate small group work
- Use coaching at the right time
- Open, clear and honest communication
- Give constructive feedback
- Listen and do not judge. Again: when asked give constructive feedback
- Increase motivation by handing out increasing responsibilities.
- Try to create dialogues.



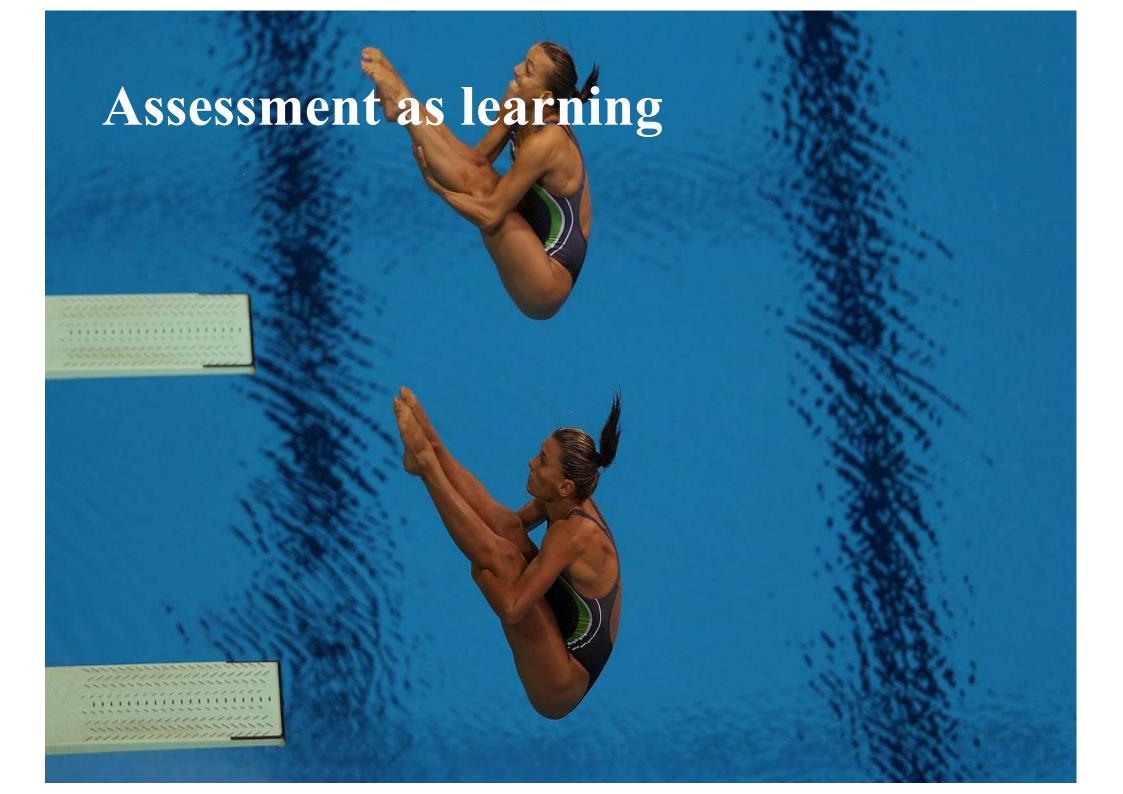
Flexibility

Flexibility: formal and informal

Flexibility means being open to learn spontaneously, for those moments where learning happens unplanned and learning takes place informally.

Practical Tips:

- Dare to deviate from the manual
- Leave some extra room for casual learning moments
- Discuss mistakes
- Use discussion moments and the network in the organisation
- Stimulate learners to formulate their own goals
- Brainstorm
- Be an example

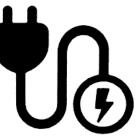


Assessment as Learning

Assessment as Learning: Assessment is integrated in the learning process

Practical Tips:

- Strong integration of learning and assessment
- Use group assessments and individual assessments
- Pay attention to the process
- *Use assessment as a part of the learning process*
- Self-, peer-, or co-assessment
- Stress inhibits learning!



Interaction between theory & practice: win-win

- More expansive learning
- More 3G assessment



More expansive learning:

Knowledge is constructed in interaction

Assessment should be directed also at interaction More feedback, constructive feedback

Feedback between peers

Development of new knowledge during the learning process





More 3G assessment – Assessment as Learning

Resource assessment:

Portfolio's

Creative tests: Two-stage assessment

Products as input for evaluation

Assessment of basic knowledge

Determining criteria in interaction, etc.

Criterium oriented interviews in team (where new knowledge was constructed)



Meer 3G assessment – Assessment as Learning



Agency assessment:

"the focus here is on how well people exercise 'agency' in their use of the resources or tools (intellectual, human, material) available to them to formulate problems, work productively and evaluate their efforts.

Permanent evaluation of projects; of product development, assessment -interviews with teams, etc... in order to assess agency.

Assessment-as-Learning

- Avoid formative tests; they are usually summative; provide constructive feedback constantly during meetings
- Use Portfolio assessments
- Two-stage assessments
- Products ass input for assessment
- Determine criteria in interaction with learners
- Self-assessment / 360° feedback
- 3G assessment: "the focus here is on how well people exercise 'agency' in their use of the resources or tools (intellectual, human, material) available to them to formulate problems, work productively and evaluate their efforts.
- Learning outcomes can be captured and reported through various forms of recording, including audio- and visual media." (James, 2006, p.58).





4. Everyday practice: What do we see?

- Great innovations, but lots of unchanged classrooms window dressing
- New modes of assessment, but also still too much traditional testing—40/80 principle
- Students admitting they work for tests too little engagement and passion
- Hard to change??
- And also: successful HILL programmes!!!

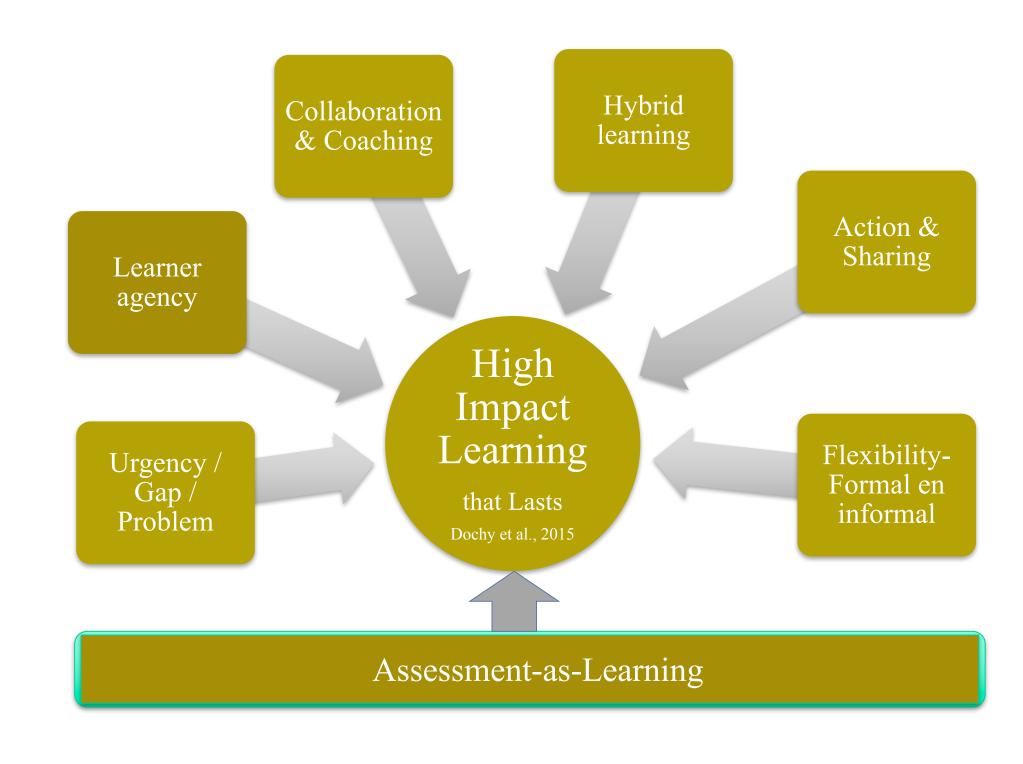
Great innovations, inspiring examples

- Our analysis of many HE training programs (Dochy & Nickmans, 2005; Koenen, Berghmans & Dochy, 2015)
- Inspiring training programs : What is there secret?
- What can they do, that we cannot?



- 1. Teamwork: a team of teachers and co-workers that work in continuous interaction and in a real team (interdependent, co-construction, sharing between members, TMS, etc.) students see and feel the team.
- 2. Shared vision in the team, that started at the bottom and is strongly shared (changing roles; no real hierarchy; engagement; feeling of ownership ("our"))
- 3. Continuous 'engineering' of the approach and program; continuous peer learning among colleagues; teachers redesign the education project in the same way as students design products and processes with real clients and a real challenge.
- 4. Teachers learn continuously from students: 'reciprocal teaching' or even 'reciprocal learning' (see Hattie's variables that affect performance)
- 5. Continuous feedback to students and between students

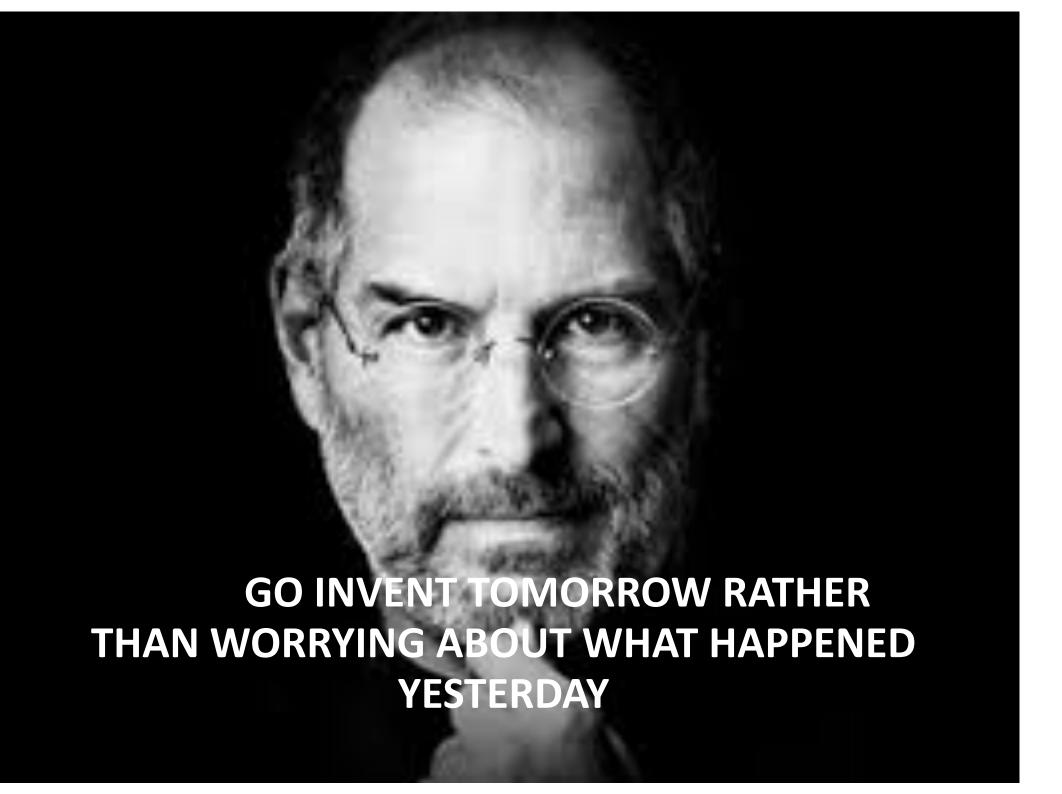
- 6. Communities and projectteams establish short communication lines, a lot of support and lots of sharing
- 7. There is a great amount of *trust* in what students can and in their taking of responsibility
- 8. Learning of students is the core of the business. Learners can freely run in and out of teacher rooms and community rooms and discuss their issues. Each learner still manages his own trajectory
- 9. Focus at *problem solving and reflection* by students
- 10. Learners are *highly aware* of their *ability and responsibility to steer* the process (incl. Self-efficacy).



Questions?



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