

Context Matters

Insights from Nudging Theory and Learning Ergonomics

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Nudge Theory

- Behavioral economics
- „environmental cues“ which impact behavior
- Some examples of use in education
 - so far not widely adopted

Learning Ergonomics

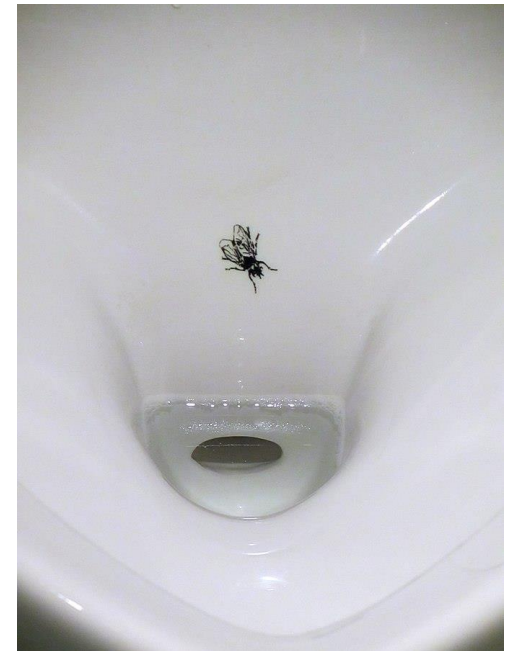
- Institutional approach
- Practice-oriented
- Focus on „manageable factors“

(Educational) Nudges



What is a nudge?

... small interventions, which do not take away choice and are designed to leverage people's unconscious habits.



How to design successful nudges – the EAST framework

E ... Easy

A ... Attractive

S ... Social

T ... Timely

Example: Organ donation

Opt in to donate organs	Max. 30 %
Opt out not to be a donor	80 – 90 %

Strategies:

- default or pre-set options
- reducing the effort required
- making the message clear and simple

Educational nudges – example



- Exam enrolment: opt-out instead of opt-in; “it relies on the student’s inertia to provide them with the best outcome” (Weijers et al. 2021, 894)
- Eliminating or mitigating hassles → more time, effort, and cognitive energy to focus on the substantive challenges of learning. Even small hassles – like a confusing instruction, an unnecessary step in the process, or a minor technical glitch that delays progress – can knock students off the path and ultimately keep them from completing a course (Alhadeff et al., 2019).

Criteria for successful nudges

E ... Easy

A ... Attractive

S ... Social

T ... Timely

Strategies:

- Attract attention (colors, images, personalisation)
- Design rewards

Educational nudges –examples



Experiment with 683 students

8 facultative homeworks, each with a maximum of 0,7 extra-points

maximum of points in the course: 120

Results:

4x more homeworks in the test group

10 % better quality

More active on the LMS – even in exercises without reward

Furtmüller, Garaus, Güttel (2015), The hidden power of small rewards: external rewards in online learning, Academy of Management Learning & Education, 15(1).

Criteria for successful nudges

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Example:

Social normative messages: “9 out of 10 people in your neighborhood have already paid their taxes”

Strategies:

- Show that most people perform the desired behavior
- Foster networks
- Encourage people to make a commitment to others

Educational nudges – example



- Learning analytics to identify students who struggle
- Intervention messages:
 - Offering advice and tutors
 - Socio-normative messages: showing the student's progress relative to their own goals or to the rest of the cohort
- Have students commit to tasks in front of others → increases follow-through

Criteria for successful nudges

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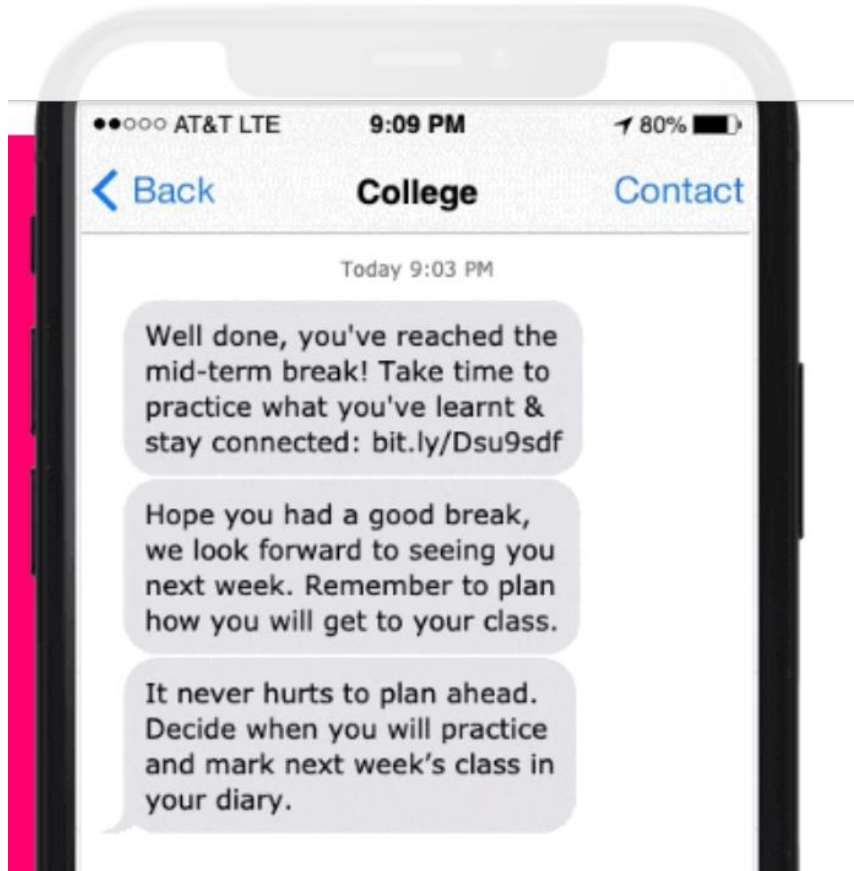
Example: Reminder for seatbelts (Austin, Sigurdsson and Rubin, 2006)

When entering the car	80 %
5 minutes before entering the car	58 %
No reminder at all	55 %

Strategies:

- Prompt people when they are likely to be most receptive
- Consider the immediate costs and benefits
- Help people plan

Educational nudges - example



Chande et al. 2017

- text message nudges during the first ten weeks of a course:
 - 4% increase in attendance during the trial period
 - 7% increase in attendance afterwards,
 - 8% increase in the likelihood of passing exams.

How to design successful nudges – the EAST framework

E ... Easy

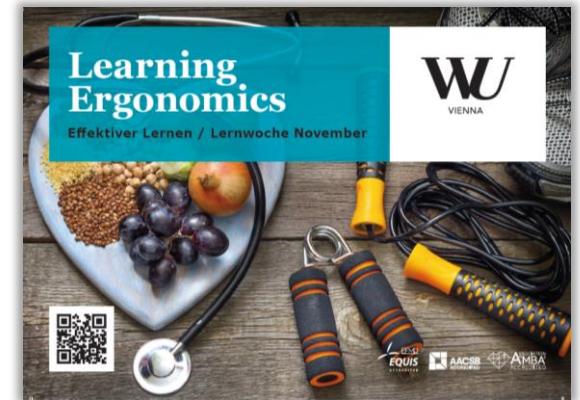
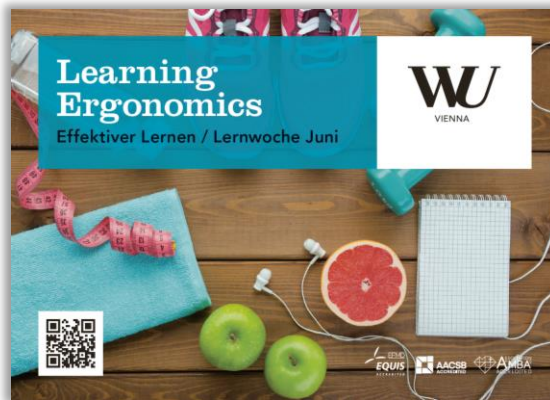
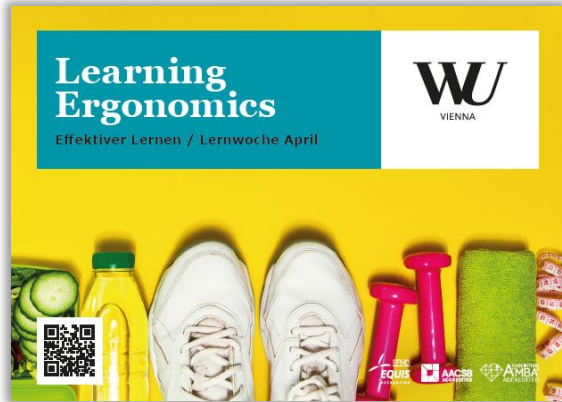
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Learning Ergonomics

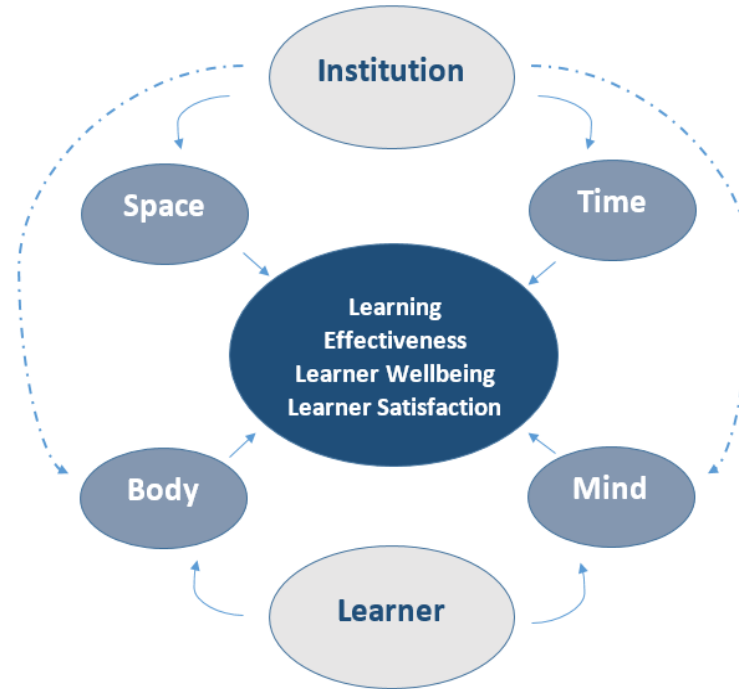
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Learning Ergonomics – a practice-oriented framework

- architecture
- design of learning spaces and teaching rooms

- nutrition
- physical activity
- sleep



- biorhythm
- scheduling

- stress
- concentration

Space(s)



<https://www.uu.nl/en/education/future-learning-spaces/review-meeting-the-future-is-now-how-can-we-improve-our-use-of-existing-learning-spaces>



<https://slamcoll.com/case-study/79/university-texas-austin>



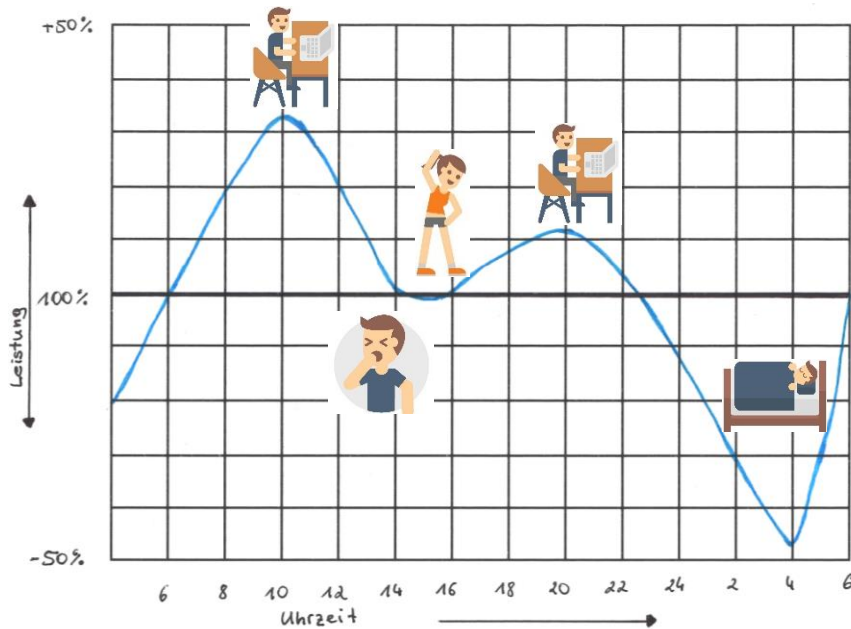
- Physical activity is associated with beneficial effects on attention/concentration ability, basic arithmetic competence, and the fluency facet of creative potential (Tilp et al. 2020)
- Include physical activities in the courses
 - As „movement breaks“
 - In the form of teaching methods that require movement(see https://learn.wu.ac.at/open/tlac/bewegung_lehre)



- Large body of evidence of the effects of Mindfulness meditation, techniques from MBSR on the brain
- Integrate stress reduction techniques in your teaching: mindfulness exercises, relaxation techniques, and time management skills.
- Example: Mindfulness and Meditation at University - The Munich Model



<https://www.bostonglobe.com/metro/2016/02/16/uvm-substance-free-dorm-comes-with-personal-trainer-nutrition-coach/cmjJQcYCBX6FfAy74o3SNN/story.html>



- block courses lead to better grades and more motivated students (Metzger & Haag, 2013).
- carefully planned student workload throughout the semester leads to less stress for students and increases self-study time and student satisfaction (Groß & Aufenanger, 2011).
- Share time management strategies with your students

Consider this presentation as a nudge to...

- ... reflect about the role of context and environmental cues in your courses as they influence how your students learn and impact outcomes like learning effectiveness, follow-through rates etc.
- ... identify (areas within your) courses where small adjustments can lead to behavioral adaptations and increased effort and success.
- ... dedicate course time to interventions that promote student wellbeing as it has a direct impact on academic outcomes.

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