Workshop I Social Physics
Minor Applied Data Science

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Warming-up exercise

Course outline

Week 12	Workshop I	What's social physics and what's in it for you?
Week 14	Workshop II	Integration into the professional task
Week 16	Workshop III	Implications and future learning

- Between workshops: Homework assignments

- Formative assessment/feedback of homework assignments during workshops II and III

Set-up of the course

Active learning! ☺

Why??

People generally remember...
(learning activities)

People are able to...
(learning outcomes)

10% of what they read
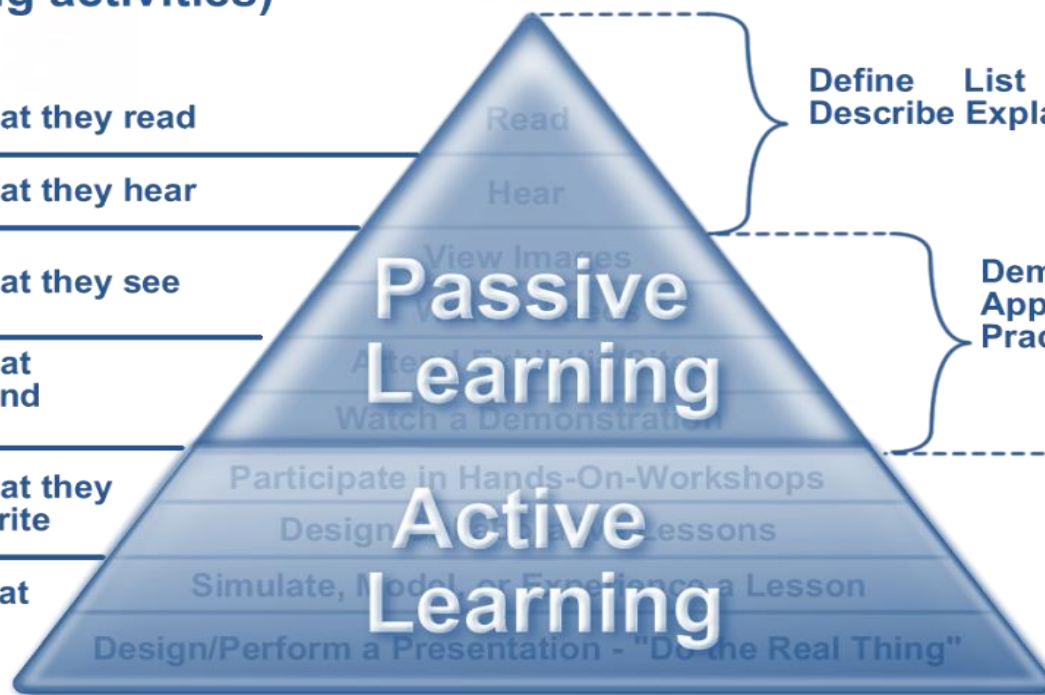
20% of what they hear

30% of what they see

50% of what they see and hear

70% of what they say and write

90% of what they do.

Read

Hear

View Images

Watch a Demonstration

Participate in Hands-On-Workshops

Design/Perform a Presentation - "Do the Real Thing"

Passive Learning

Active Learning

Define   List
Describe Explain

Demonstrate
Apply
Practice

Analyze
Define
Create
Evaluate

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Today

- What is social physics?

- Key concepts, e.g.:
  - Idea flow
  - Social learning
  - Living laboratories
  - Reality mining
  - Fast thinking, slow thinking, and free will

- Examples

- Application to professional task

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Social physics?

Relay exercise

Case

- Questions?

- Concepts?

Break

~ 15 minutes ~

Social Physics

"Social physics is a quantitative social science that describes reliable, mathematical connections between information and *idea flow* on the one hand and people's behaviour on the other. It helps us understand how ideas flow for person to person through the mechanism of *social learning* and how this flow of ideas ends up shaping the norms, productivity and creative output of our companies, cities and societies."

- Alex Pentland -

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In other words...

Social physics is where social sciences (psychology, sociology) and big data meet!

´Old´ versus ´new´

Traditional social sciences

- Conscious decisions
- Laboratories
- Incidental
- …

Social physics

- Unconsciously influenced
- Living labs
- Continuous
- …

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Why?

https://www.youtube.com/watch?v=yv5bxqQG5xI

Examples

- Stock exchange

- Crowd funding

- Political beliefs

- Consumer behaviour

- Health choices

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What's in it for you?

Assignment: How could you use social physics?

→ Work in teams

→ If necessary, clarify your conception of SP

→ Determine how you could use SP in your own professional task

→ Specify: - Which are your goals?

- What do you need (means)?

- How do you tackle this (method)?

- Conditions and exclusions?

→ Poster presentation on sheet – **5 mins. MAX!**

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Homework assignments

- Read:
  - Social Physics, by Alex Pentland, Chapters 2 and 3
  - Additional elective sources

- Answer the learning questions on the whiteboard

- Further elaborate on social physics in your professional task:
  - Which are your goals?
  - What do you need (means)?
  - How do you tackle this (method)?
  - Conditions and exclusions?

- Prepare a pitch of 5 minutes with your group (on this elaboration)

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Questions?

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