

Seminar 1 - instructions

Read the following texts:

- Kirsh, D. (2010). Thinking With External Representations. *AI and Society: Journal of Knowledge, Culture and Communication*. London Springer. Vol 25.4
- Gedenryd, H. (1998). Chapter 5. Interactive cognition, in *How Designers Work - making sense of authentic cognitive activities*. Lund, Sweden: Lund University Cognitive Studies 75. <http://portal.research.lu.se/ws/files/4819156/1484253.pdf>
- Hutchins, E. (1995). How a cockpit remembers its speeds. *Cognitive Science*, 19, 265-288.

Before the seminar you are required to write a short reflection (1-2 A4) that you bring to the seminar.

For each paper: think of an everyday situation, involving external representation(s), where a concept, idea or theory from the paper can be used to explain or at least discuss the situation. Preferably, the situation should come from your own, recent, experiences. If you cannot think of such a situation, instead try to imagine one where the contents of the papers are relevant. Perhaps you only need to think of one situation that can be related to all papers, or you consider three different situations, each with specific meaning in relation to each paper.

During the seminar, use each participant's own experiences as a starting point for the discussions.

Submission

After the seminar, answer the following questions and submit as a PDF of no more than 2 pages. Reference all the texts in a meaningful way.

- What does it mean that external representations "change cost structure of inferential landscape" (Kirsh, 2010)?
- How are external representations more "natural" representations of phenomena?
- What does it mean for how we understand thinking? In what way is it interactive?
- What is the role of feedback for thinking?
- What are the roles of transformation and propagation in Hutchins's (1995) text?
- What does it mean for design to adopt this view? If design is about making future situations through changing the existing ones.

Optional part

For higher grades (VG/ 4,5), read also the following text and answer the associated questions on 1 additional page.

- Adams, F., & Aizawa, K. (2001). The bounds of cognition. *Philosophical Psychology*, 14(1), 73-64.
 - What do the authors mean by the mark of cognition? Why do we need such a concept?
 - What are the main arguments against the idea of distributed cognition?