

# TECS- towards technological attentionality

Video 2: T = *Technology* as design and learning intensive device

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# Technology as a designed material artefact

- ▶ In all professional workplaces, the tools that the professionally trained work with are replaced on an ongoing basis. One year it's interactive whiteboards, the next iPads. New programs, pacemakers and electronic thermometers are being invented. What new technologies have entered the work of professionals, and how do you learn about them?

T = *Technology* as  
design and learning  
intensive device



# Four reasons for technological attentionality



1. 'New Technology can be difficult to understand – but once learned is becomes too habitual'
2. 'Engagement with technology in practice changes both technology and humans'
3. 'Complex trajectories and lack of ownership of technologies in organizations'
4. 'Professionalism and Technologies' change each other over time.

# Three reasons for paying attention to technology as designed and learning intensive device

1. New technology can be difficult to understand at first but once learned is becomes so habitual we forget to pay attention to what it does.
2. Matter and meaning are inseparable – but subject to change
3. Technologies are multistable

Technology as a designed material artefact - but designers cannot envision local use (Ihde: designers fallacy)

*It (the interactive whiteboard) has not been properly implemented. It may well be we that we now have an interactive whiteboard, but the teachers are just as often using it as a projector screen, right? (Teacher 9, Technucation)*

# Unpacking a designed technology

- ▶ Look at materials and how they are connected
- ▶ Do not be afraid of tinkering
- ▶ Try different possibilities
- ▶ If jamming – unplug and start again

Why do we need to pay attention to  
technology in our everyday ?

“Matter and meaning are not separate  
elements. They are inextricably fused  
together, and no event, no matter how  
energetic, can tear them asunder.”

(Barad, [2007](#), p. 3)

“mattering is simultaneously  
a matter of substance and significance”

(Barad, [2007](#), p. 3)





# Not just instrumental tools

Technological artefacts can be broadly defined as a meaningful phenomenon, linking tangible tools with thoughts, actions and culture associated with the everyday routines of our local life-worlds where technology helps to define our relationships and generate opportunities in this life-world (Kim and Roth 2008).

Technologies are not just helpful, but ‘bite back’ and have ‘unintended consequences’ (Tenner 1996).

# Technologies as habitual relations

- ▶ It is something humans have always – since they left the naked perceptions of the Garden – done” (Ihde 1990: 72).
- ▶ The embodiment relation
- ▶ The hermeneutic relation
- ▶ The alterity relation
- ▶ The background relation
- ▶ (Ihde 1990)
- ▶ The cyborg relation (Verbeek 2008) (Hybrid/composite intentionality)

# Heideggers hammer questioned

- ▶ Once learned as a tool a hammer is just something we use without further reflections - until the handle breaks
- ▶ However, new electronic tools are not like hammers. Their use is 'frictioned' - and they perform as 'newcomers' to established habits (Hasse 2013, 2015).
- ▶ Thus learning a new technology is not as easy or self-evidently practical as learning to use a hammer.

# Designers imagination does not cover local practice

(Ihde 2006, Hasse 2013).

Human engagement with technology is always meaningful to humans even when we do not explicitly reflect on the conditions of these engagements. It is through our embodied being-in-the-world that the effects of technologies attain a situated meaning, which might differ from the meaning attributed to the artefact in the cultural context in which it was created

▶ (Hasse 2013, 81)

# Multistability of technologies

A technology can be used for multiple purposes through different contexts.

“variational cross-examination” involves critically contrasting the various stabilities of a multistable technology for the purpose of exploring how a particular stability has come to dominate.

(Rosenberger 2014)



# Active multistable artefacts



“The very structure of technologies is multistable, with respect to uses, to cultural embeddedness, and to politics as well. Multistability is not the same as neutrality. Within multistability there lie trajectories, not just any trajectory, but partially determined trajectories” (Ihde 2002, 106).

# Technology as multistable

Technology is never purely determinative, for in principle other cultural relations with a given artifact are always possible. But neither is it purely instrumental, for when an artifact receives a particular definition within a cultural context – and thus becomes stable rather than multistable – it still contributes to shaping that context (Verbeek 2005: 138).



Do technologies act as designed?

- ▶ Have you had a ‘frictioned’ experience with a new technology?
- ▶ Have you used technologies in multistable ways?