

## Theory

Formative (converge) vs Summative (diverge)

- [y2019p7q8 \(a-e\)](#)

Convergent and divergent design

- [y2020p7q8](#)

Three waves

- [y2019p7q9 \(a\)](#)
- [y2020p7q9 \(a\)](#)

Visual displays

- text, maps/graphs, schematic drawings, pics, node-and-link, icons/symbols, visual metaphor
- [y2021p7q9 \(b, c\)](#)
  - Variables of the display plane and modes of correspondence

## Goal-oriented

Limitation: Wicked Problem

- [y2018p7q6 \(a,b\)](#)

## Smart System

Bayes Theorem

- [y2018p7q6 \(c\)](#)
  - improve the system usability adaptively
- [y2018p27q8 \(a\)](#)
  - when new, no prior basis

## Evaluation

- [y2019p7q9 \(b\)](#)
  - evaluation w.r.t three waves
- [y2019p7q8 \(f-h\)](#)
  - reliability
- [y2020p7q8 \(f\)](#)
  - theory, approach, limitation

Efficient

First wave, Controlled experiments (Speed and accuracy), e.g. KLM A/B Test (Summative Empirical)

- [y2018p27q8 \(c\)](#)
  - practical steps
  - the data, how to analyse
  - and the kind of recommendations to make
- [y2019p7q9 \(d\)](#)
  - viscosity
- [y2020p7q9 \(e,f\)](#)
  - strengths and weakness

## Meaningful

Second wave, ethnography (Empirical)

- [y2020p7q9 \(b\)](#)
  - empirical, observation of a phenomena in the world
- [y2018p27q8 \(b\)](#)
  - formative, how
- [y2021p7q9 \(e\)](#)
  - ethnography, grounded theory

## Complex System

notational activity, CDN

- [y2018p27q8 \(a\)](#)
  - hidden dependencies ↑ viscosity ↑ visibility ↓
  - mitigation
- [y2019p7q9 \(c,d\)](#)
  - premature commitment / viscosity ↓ hidden dependency ↓
  - notational activity (exploratory design, open)
- [y2021p7q9 \(d\)](#)
  - abstraction ↑ , viscosity ↓, premature commitment ↑, hidden dependency ↑, diffuse ↑
  - notational activity (modification, open)
- [y2020p7q9 \(c-d\)](#)
  - role-expressiveness/secondary notation ↑ diffuseness ↑
  - notational activity (search)