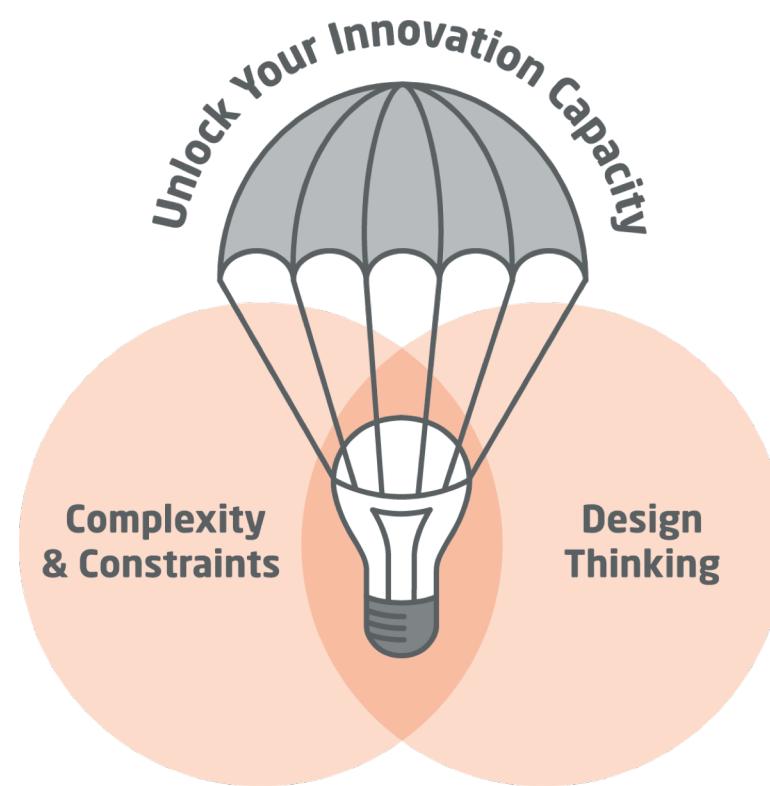


# STRATEGIC DESIGN THINKING FOR EVERY DAY.



# The Principle of ITERATION



# ITERATION

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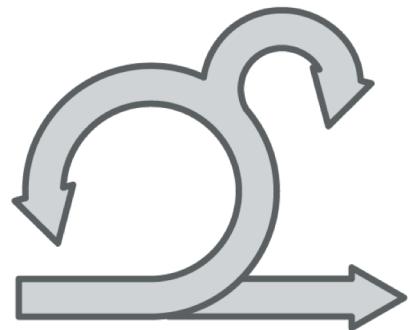
*„Repetition of a procedure applied to the result of a previous application, typically as a means of obtaining successively closer approximations to the solution of a problem.“*

GOOGLE DICTIONARY

# ITERATION

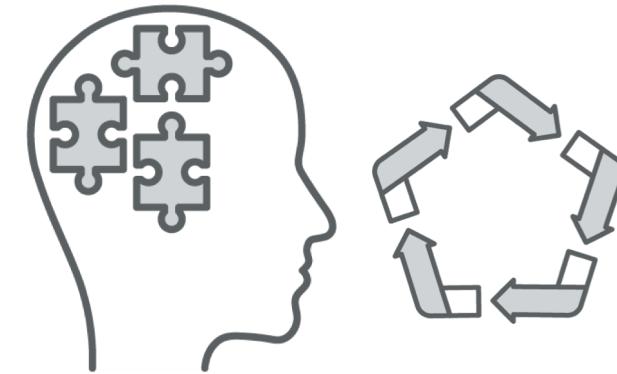
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## Mathematics & Computing



Standard element of  
algorithms.

## Education



Learning by cyclical inquiry,  
enabling repeated experiments  
to find and refine results or  
master skills.

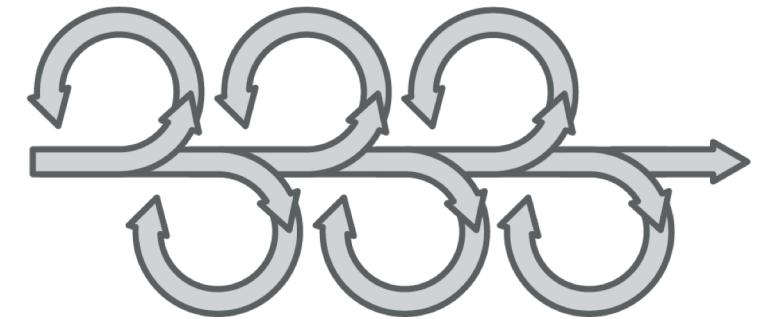
# ITERATION

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[ ɪtə'reɪʃ(ə)n ]

Latin:

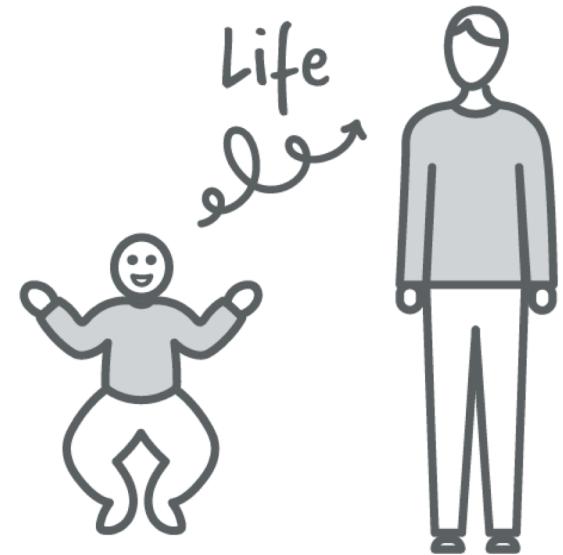
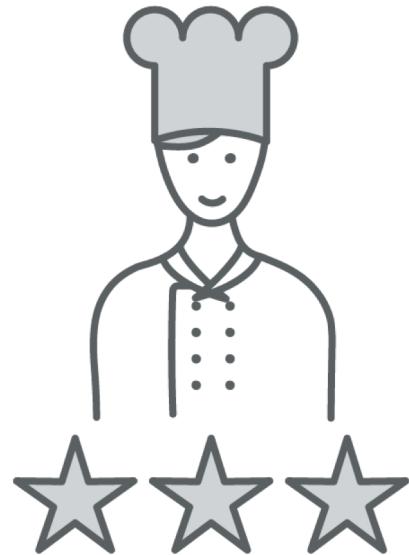
*Iterare / Iteratio* (repeated / again)



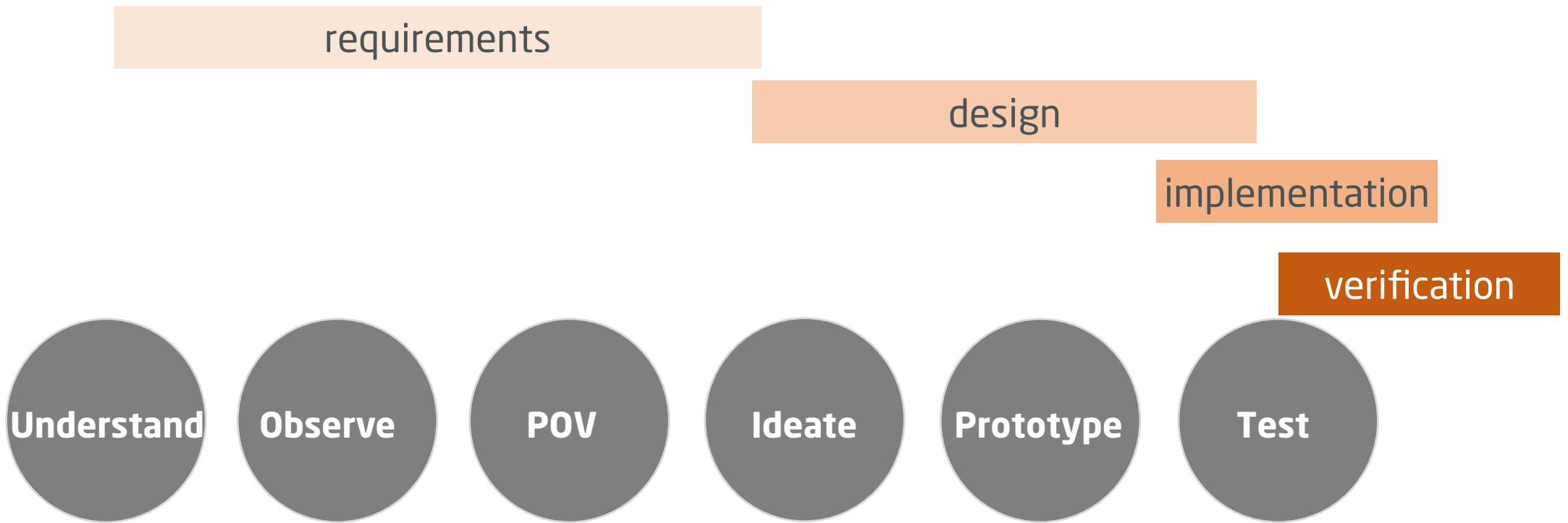
>>> **ITERATION means repeating a procedure and applying it again to the result of the previous application.**

# Principle of ITERATION in daily life

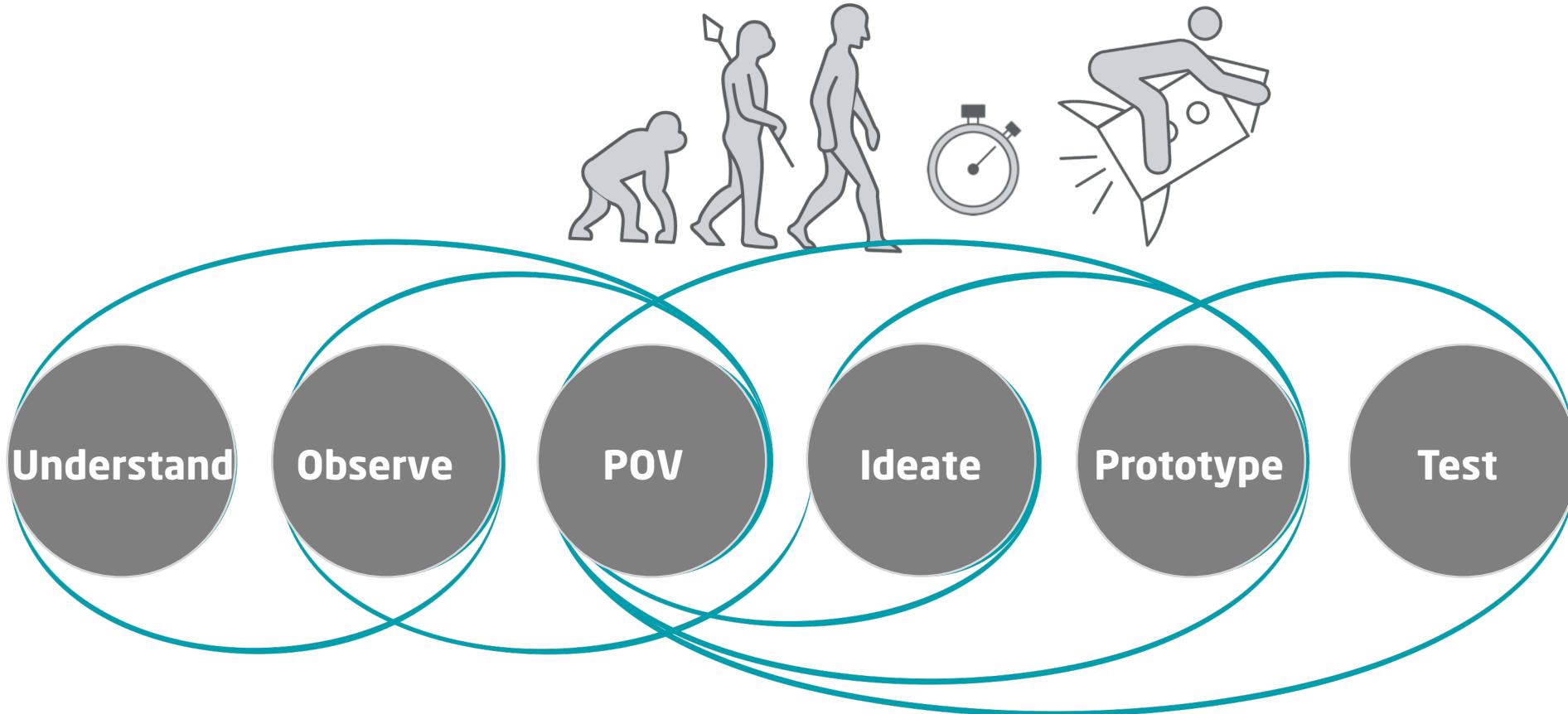
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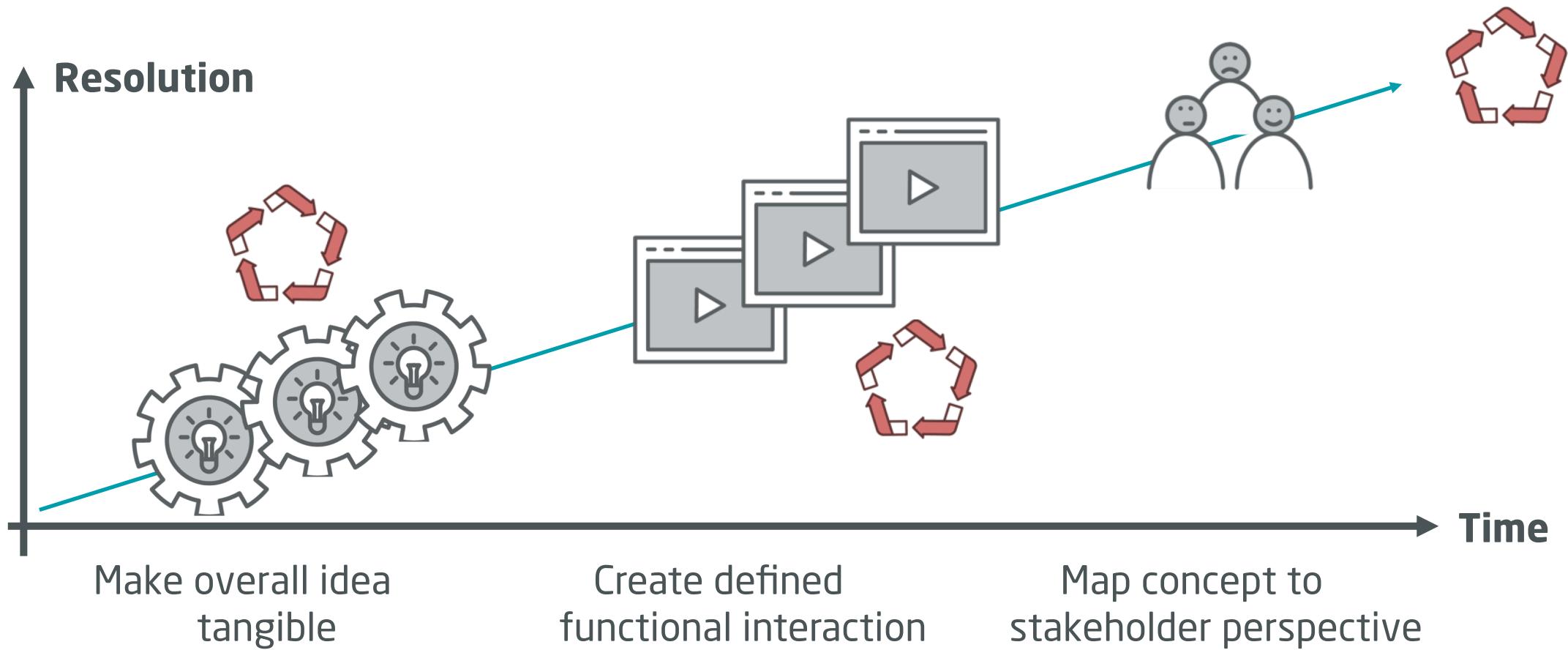
# ITERATION in Design Thinking



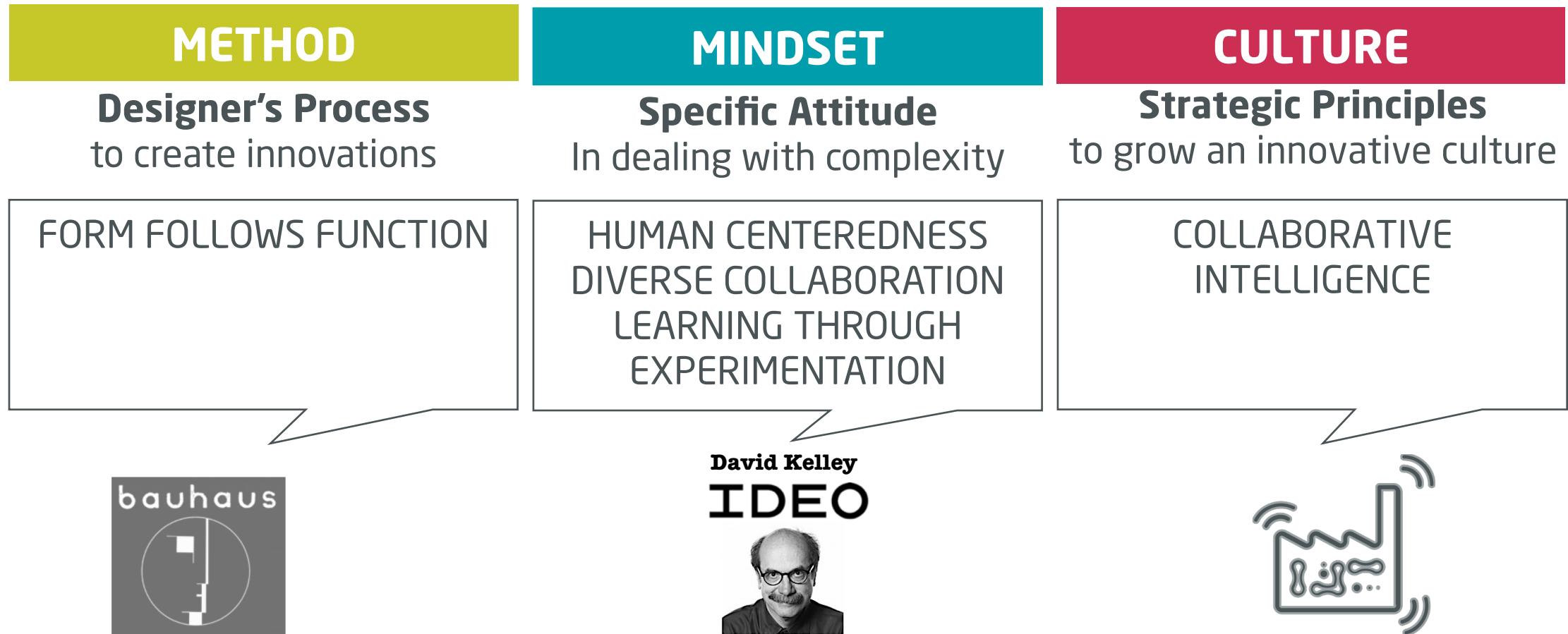
# ITERATION = High Speed Evolution



# Prototyping Process



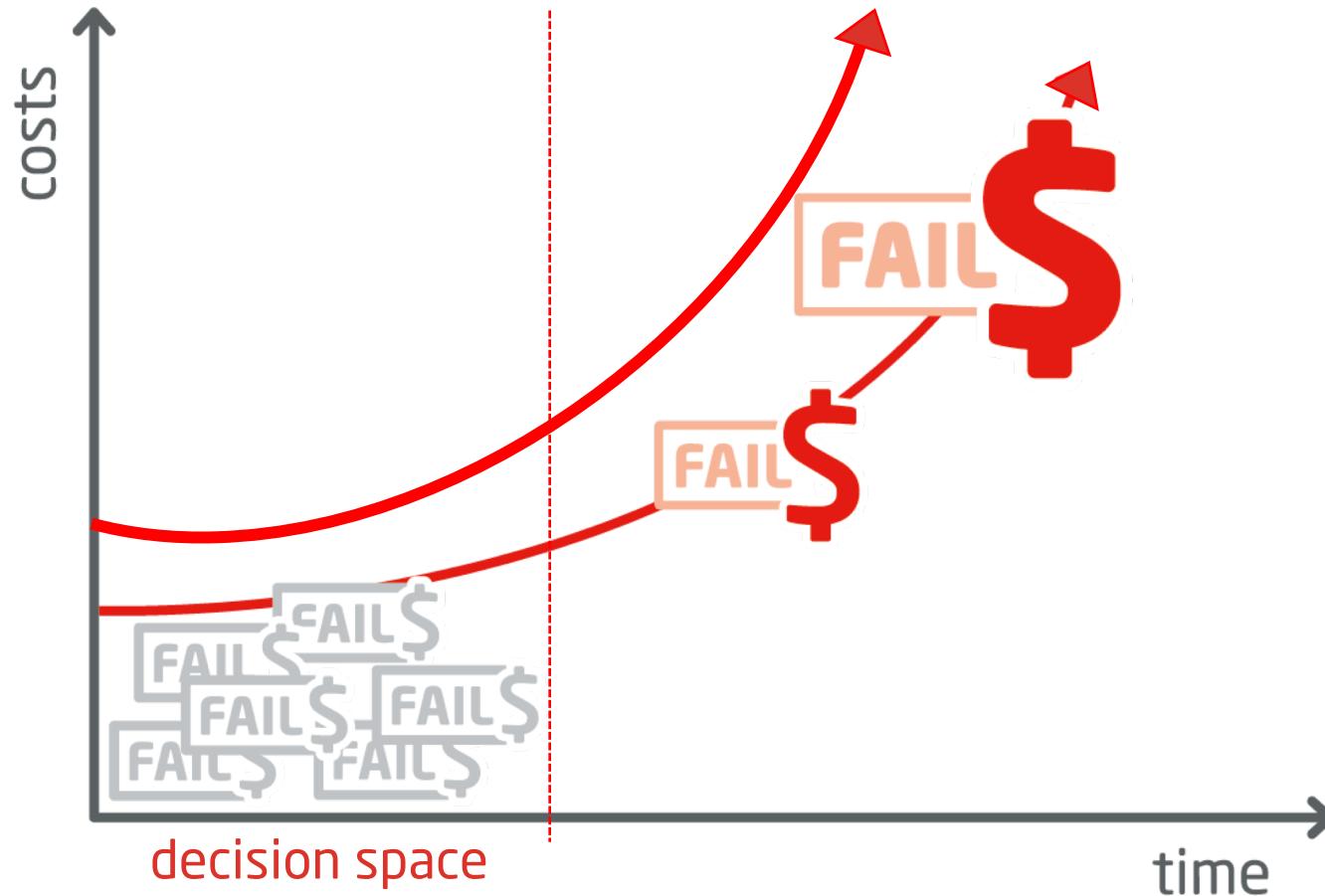
# Iterations of Design Thinking



# Why using ITERATION as strategic principle for innovation?

- ▶ Failing early means succeeding sooner.
- ▶ Failures can lead to disruptive innovations.

# Cost Development in Innovation



*"The irresistible temptation to move on whatever it costs"*

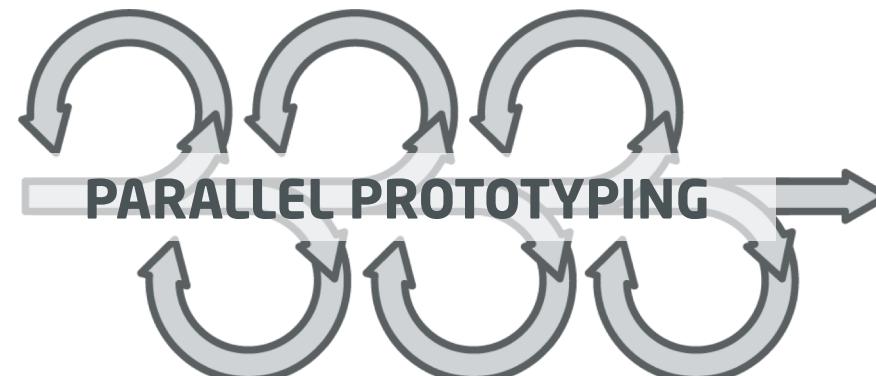
# Accelerated and Multiplied Iteration leads to Better Results



*The study found that a **parallel prototyping** approach yields better results, more divergent ideas, and that parallel prototypers develop a stronger design confidence.*

Parallel Prototyping Leads to Better Design Results, More Divergence, and Increased Self-Efficacy / STEVEN P. DOW, ALANA GLASSCO, JONATHAN KASS, MELISSA SCHWARZ, DANIEL L. SCHWARTZ, and SCOTT R. KLEMMER ; Stanford University 2010

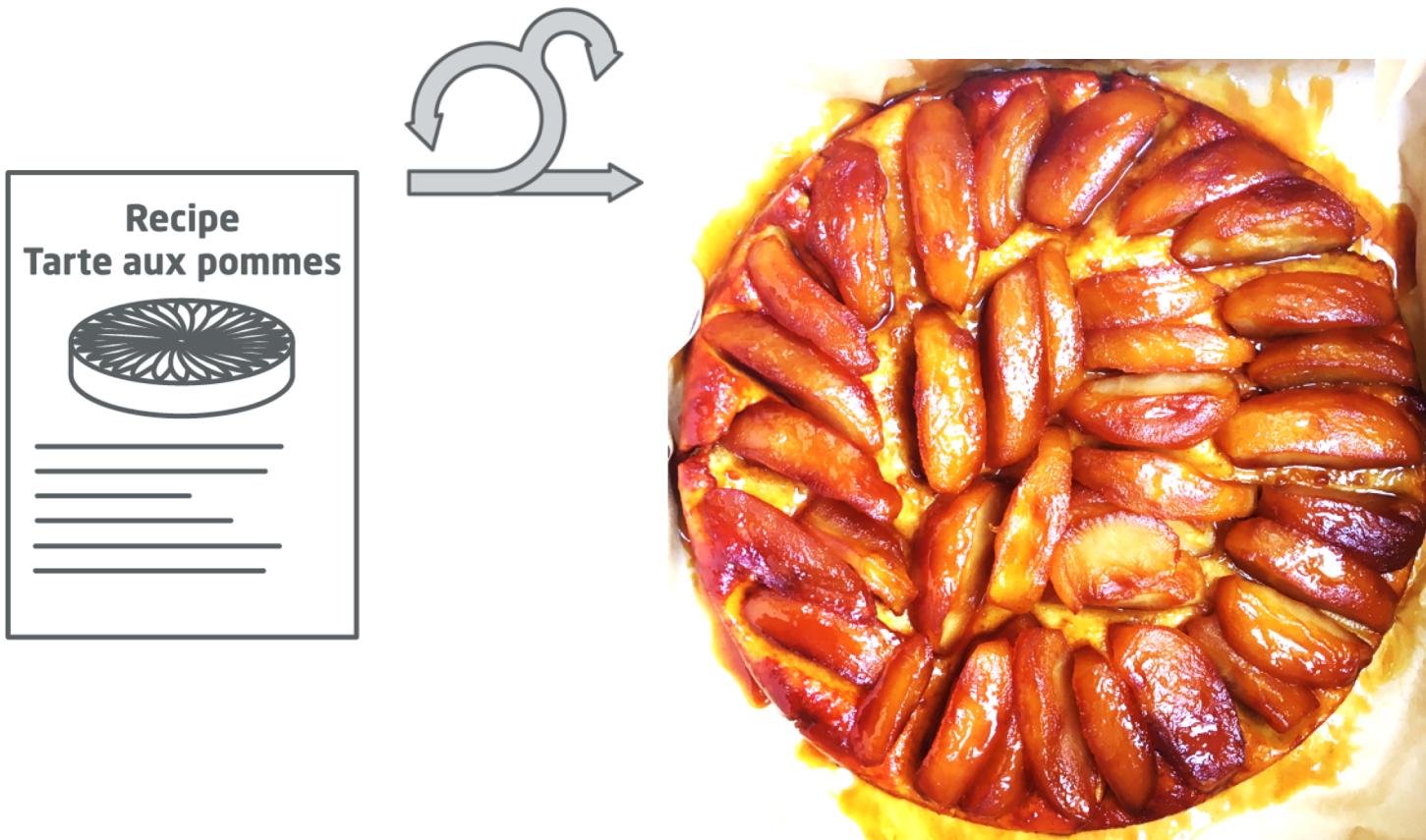
1. Critique is taken less personal.
2. Comparisons increase understanding
3. Investment in creative process rather than in particular idea



# Why using ITERATION as strategic principle for innovation?

- ▶ Failing early means succeeding sooner.
- ▶ **Failures can lead to disruptive innovations.**

# The Hidden Value of Failure



- 1. What works?**
- 2. What has to be improved?**
- 3. What could be a new idea?**

# The Hidden Value of Failure

Wheat mash for people suffering stomach pains



unique taste and texture of cereals

A super strong adhesive



unique removable paper adhesive

A standard apple pie

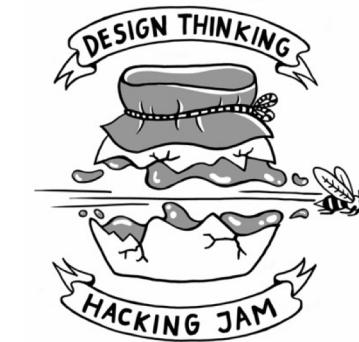
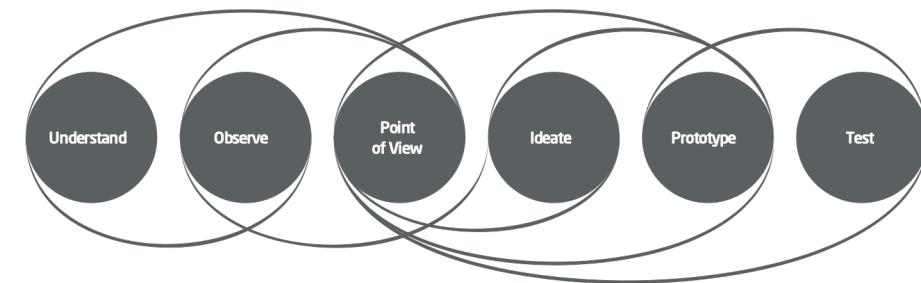


uniquely caramelized taste

CC0 1.0 / [https://commons.wikimedia.org/wiki/File:Photo\\_cornflakes.jpg](https://commons.wikimedia.org/wiki/File:Photo_cornflakes.jpg)

CC BY-SA 4.0 by Loslazos/ [https://commons.wikimedia.org/wiki/File:Tarte\\_tatin\\_appletart.jpg](https://commons.wikimedia.org/wiki/File:Tarte_tatin_appletart.jpg)

# ITERATION: in the process and as „Hack”





**Doug Dietz**

Principal Design Thinker at GE Healthcare

*How do I make it faster? How do I  
make it more sleek? Can I make it  
more powerful?*

*I was so focused on the shiny  
object, the new features, how  
clever we'd been, that I missed the  
big picture,*

**Design Award**



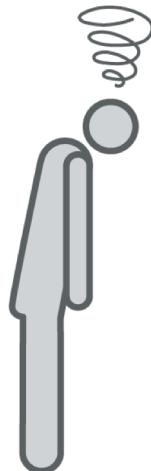
GE-Adventure Series - The Submarine Room: [GE Healthcare](#) | © Traditional Copyright



**Doug Dietz**

Principal Design Thinker at GE Healthcare

- 80% sedation rate
- Terrified patients
- Scary overall experience

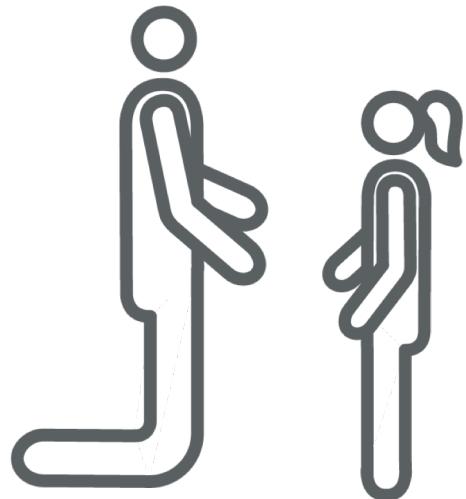


**CONSTRAINT**

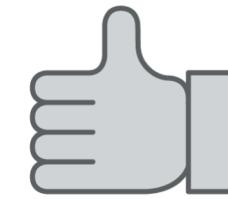
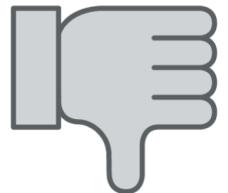


GE-Adventure Series - The Submarine Room: [GE Healthcare](#) | © Traditional Copyright

**Take the constraint as  
inspiration for innovation...  
by taking over the user´s  
perspective**

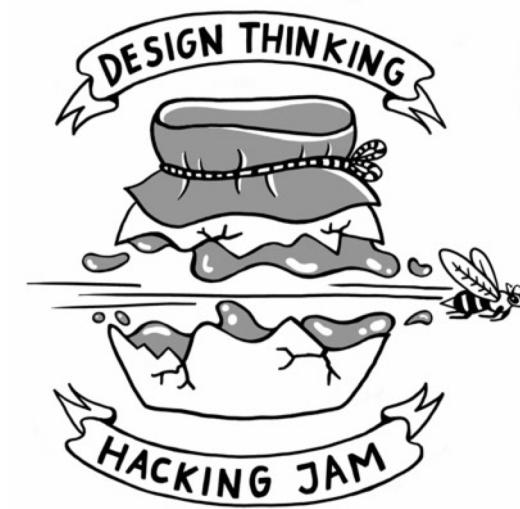


# Transforming a Failure into a Success



# ITERATION - Hack: How to grow Collective Failure Wisdom

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Udit, Program Manager  
Executive Education Academy

**„Our supporting colleagues are student trainees, that stay only 3 months.“**

**PROBLEM:**

Student trainees learn by working in the team - yet they automatically rotate in short cycles of 3 months. The learnings they make through mistakes are „lost“ with every student-colleague leaving the team.





Udit, Program Manager  
Executive Education Academy

## „A Failure Guide anchored the knowledge and made it shareable“

### SOLUTION:

A Failure Guide became the core tool for the onboarding process. Every new colleague became temporary author and completed the list of failures and learnings.

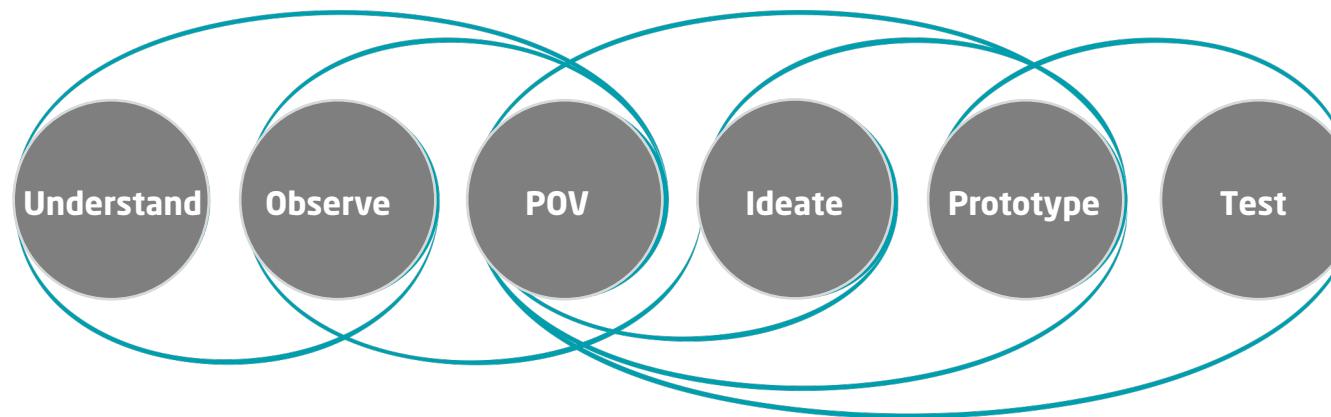
**EFFECT :** failures got a new image as growing agents of smartness. The open discussion supported a trustful working atmosphere.

The Failure Guide document is organized into sections for different types of failures and their associated learnings. The visible pages include:

- Failure #1:** Paper is jammed, ink is empty, suddenly 3000 copies instead of the set 30 are being printed. And the coaching briefing/module is about to start tomorrow.  
**Learning:** Preparation of the workshop modules take time even though it seems to be a "simple" printing of material. You never know what surprises your laptop or the printer can bring for you. Plan a minimum of 2 days for it. The 1st day for all printouts and the 2nd day for review of connected documents. Do not forget that in the beginning you are not familiar with the printer, handling and its recurring bugs.  
Additionally account an extra day JUST for the production of the elbow sorting, sticking, organizing and making it look nice takes time. And again bugs and last minute changes can occur any moment.
- Failure #2:** Realizing one day before the start of the first module that the notebooks for Attendees need to be ordered by us (HPI Academy) and are not provided by D-School.  
**Learning:** The organizing body behind the Pro Track is the HPI Academy and so Anna and you need to have in mind what things are to be ordered best 2 weeks before the track and whether all things are in place.
- Failure #3:** During the digitalization of a graphic recording the colors have not been properly adapted to CMYK and so the final printing of posters has led to intense color distortions.  
**Learning:** Keep Anja, our communication designer, always in the loop and double check with her to make sure the final result is as best as it can be design, color and whatnot.
- Failure #4:** Prototyping material is low, stuff is missing or the space on the third floor is left in a dirty state (eg whiteboards).  
**Learning:** The space on the third floor is co-used by HPI/HPI Academy and D-School. The material in the cubbyhole belong to HPI Academy only. Hence you, representing HPI Academy in this case, need to constantly keep an eye on it to ensure that the space is always ready at all times for the HPI Academy. And yes, this has not worked out that well in the beginning, but proper communication of responsibilities and iteration is king. And in that way, during the last month a smooth space management has been established.

# It's Your Turn

► Use **ITERATION** to transform your failures into value for your innovation.



# It's Your Turn

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## ► Work on Self-Defined Challenge

**Choose your individual daily challenge that would require learning at high speed: build your personal learning lab.**

STRATEGIC DESIGN THINKING PRINCIPLES

## ITERATION

- Fail early to learn together at high speed



***"The only real stumbling block is fear of failure. In cooking you've got to have a what-the-hell attitude."***

Julia Child, late speed-learner of professional cooking.

CC BY-SA 4.0 / Julia Child in her kitchen as photographed ©Lynn Gilbert, 1978, Cambridge, Mass.

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