Innovation
Design Thinking Focus

- Design Thinking
- Identifying Customer Needs
- Creative Solutions or Gaps - Apply philosophy to business problems
- Market Assessment of Innovation
- Technology Assessment of Innovation

Innovation..

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a new or improved product or process (or a combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)."

INNOVATION

❑ Innovation is the implementation of new ideas at the individual, group or organizational level.

❑ A process of intentional change made to create value by meeting opportunity and seeking advantage.

- **Process**: Innovation is a process (implying, among other things, that it can be learned and managed).

- **Intentional**: That process is carried out on purpose.

- **Change**: It results in some kind of change.

- **Value**: The whole point of the change is to create value in our economy, society and/or individual lives.

- **Opportunity**: Entrepreneurial individuals enable tomorrow's value creation by exploring for it today: having ideas, turning ideas into marketable insights and seeking ways to meet opportunities.

- **Advantage**: At the same time, they also create value by exploiting the opportunities they have at hand.

TYPES OF INNOVATIONS

There are four distinct types of innovation, these are as follows:

➤ **Invention** - Described as the creation of a new product, service or process. Something that has not been tried before.

➤ **Extension** - The expansion of an existing product, service or process. This would mean that the entrepreneur takes an existing idea and applies it differently.

➤ **Duplication** - Copying (replicating) an existing product or service and then adding the entrepreneurs own creative touch. In order to improve it.

➤ **Synthesis** - A combination of more than one existing products or services in to a new product. or service. This means that several different ideas are combined in to one new product or service.

THE INNOVATION PROCESS

1. **Analytical planning** – Carefully identifying the product or service features, design as well as the resources that will be needed.

2. **Resource organization** – Obtaining the required resources, materials, technology, human or capital resources.

3. **Implementation** – Applying the resources in order to accomplish the plans

4. **Commercial application** – The provision of value to customers, reward employees, and satisfy the stake holders.

CREATIVITY, INNOVATION AND ENTREPRENEURS

Creativity is thinking new things, and innovation is doing new things.

➤ **Creativity** is the ability to develop new ideas and to discover new ways of looking at problems and opportunities.

➤ **Innovation** is the ability to apply creative solutions to those problems and opportunities in order to enhance people's lives or to enrich society.

Entrepreneurship = creativity + innovation

Recap..

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Organizational Innovation

Process Innovation

Product Innovation

Marketing Innovation

Recap..

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Innovation means
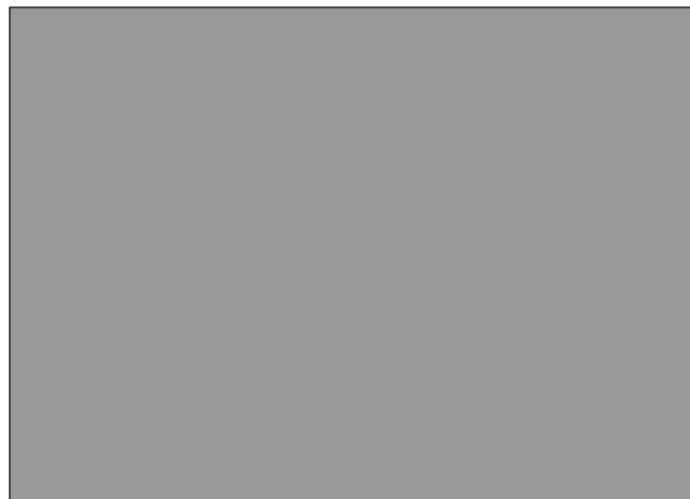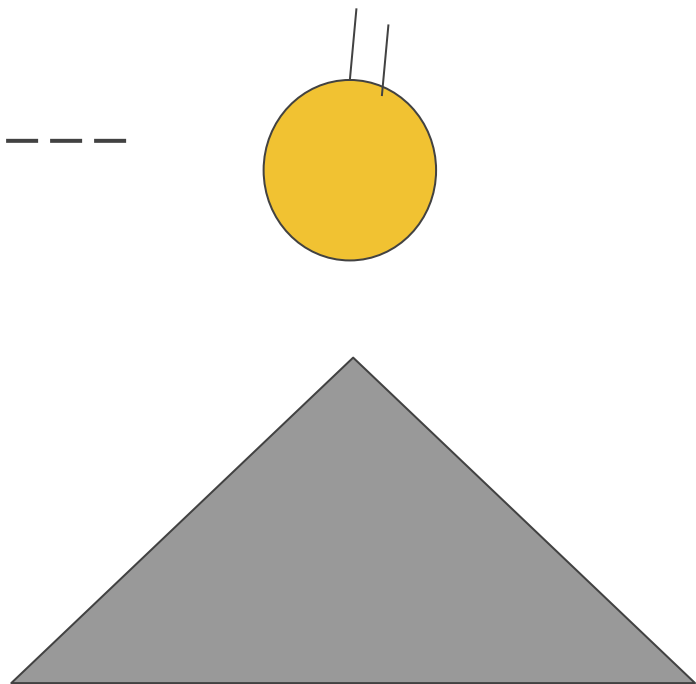
Artists vs. Innovators

Business Context

Sources: D, School, IDEO, Interaction Design org.

Out of Box Thinking

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" I try not to think out of the box anymore, but on its edge, its corner, its flap, and under its bar code "

What & Why of Design Thinking

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1. **Creative Problem Solving**
2. **Can creativity be a process**
3. **If it is then can we learn for applying it to business problems**
4. **Who is a Designer**
5. **What is Design thinking**

Quote:

Design Thinking is not an exclusive property of designers—all great innovators in literature, art, music, science, engineering, and business have practiced it. So, why call it Design Thinking? What's special about [Design Thinking](#) is that designers' work processes can help us systematically extract, teach, learn and apply these human-centered techniques to solve problems in a creative and innovative way – in our designs, in our businesses, in our countries, in our lives

Design Thinking - Definition

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Design Thinking is an iterative process in which we seek to understand the user, challenge assumptions, and redefine problems in an attempt to identify alternative strategies and solutions that might not be instantly apparent with our initial level of understanding.
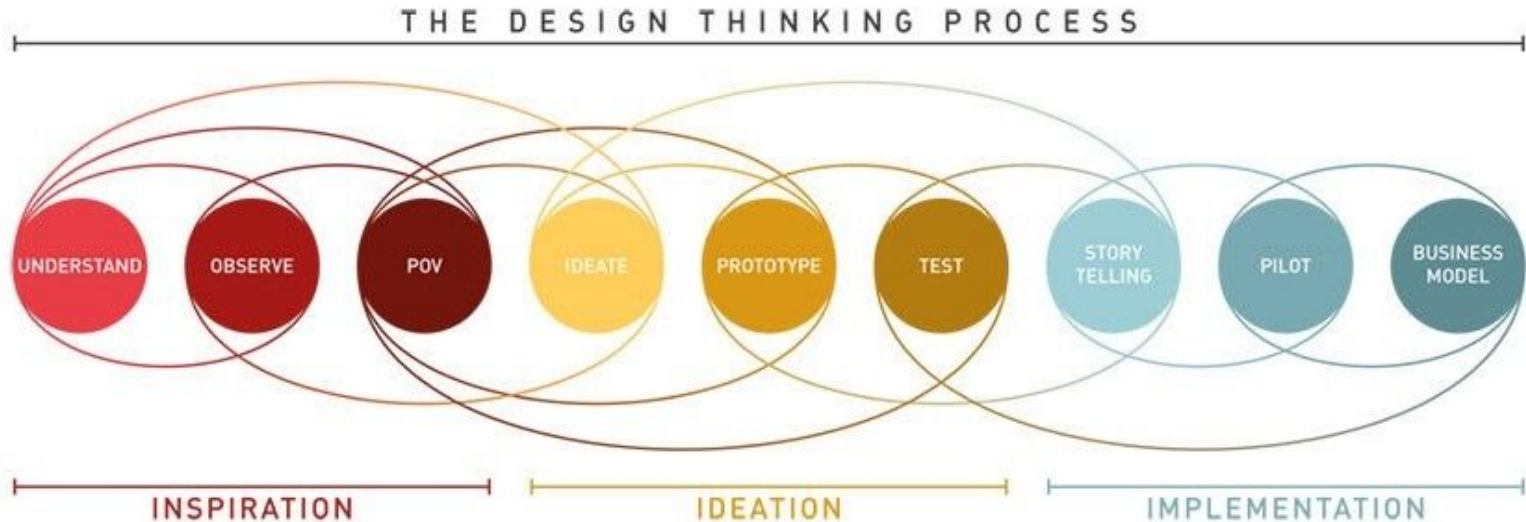
Design thinking has a human-centered core. It encourages organizations to focus on the people they're creating for, which leads to better products, services, and internal processes.

- How do they interact with products ?
- Where and Why ?

Nomenclature & Principles: Nobel laureate Herbert Simon in The Sciences of the Artificial in 1969.

3 - 7 phases

Design Thinking (Process)

THE DESIGN THINKING PROCESS

UNDERSTAND OBSERVE POV IDEATE PROTOTYPE TEST STORY TELLING PILOT BUSINESS MODEL

INSPIRATION IDEATION IMPLEMENTATION

Popular Design Thinking Frameworks

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Heart, Head and Hand

The Design Thinking Process is a blend of Heart, Head and Hand. This means the process is based on vision, need, emotion and feeling to begin with, continuing on to the cognitive processing for ideation and evaluation and then diving into practical creation by hand.
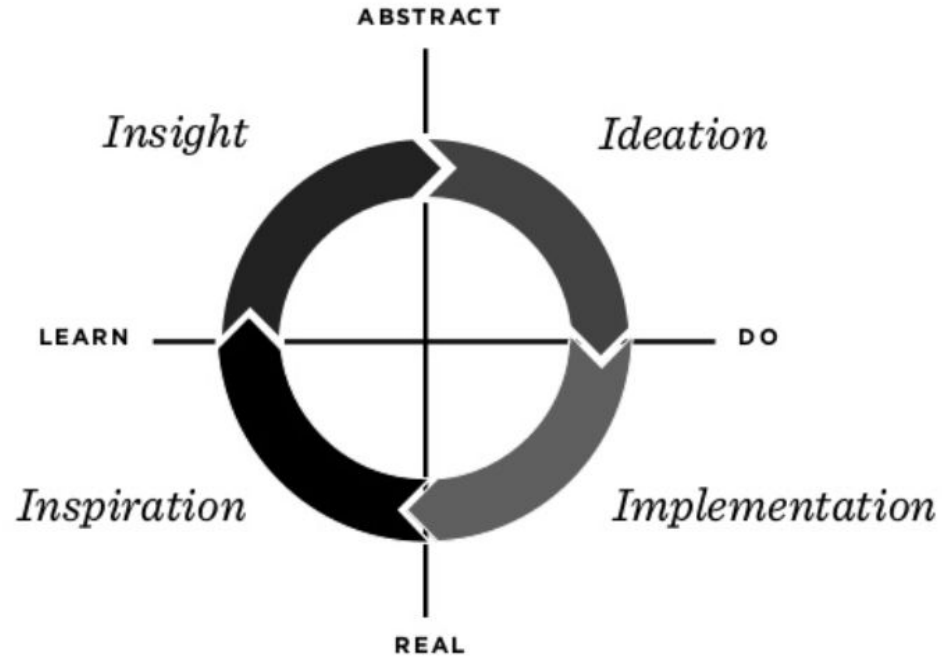
What x4 Principles
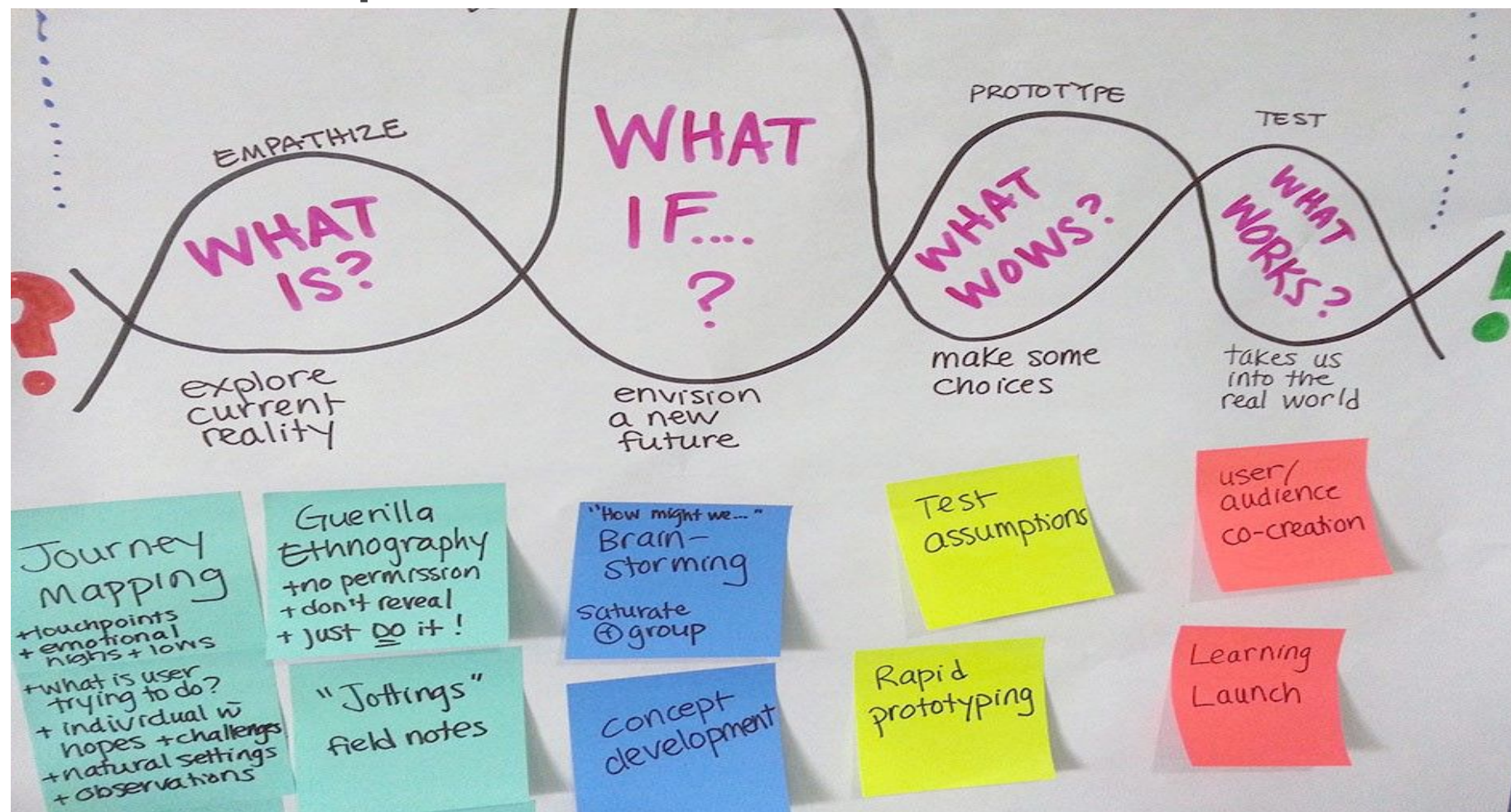
IDEO - Deep Dive

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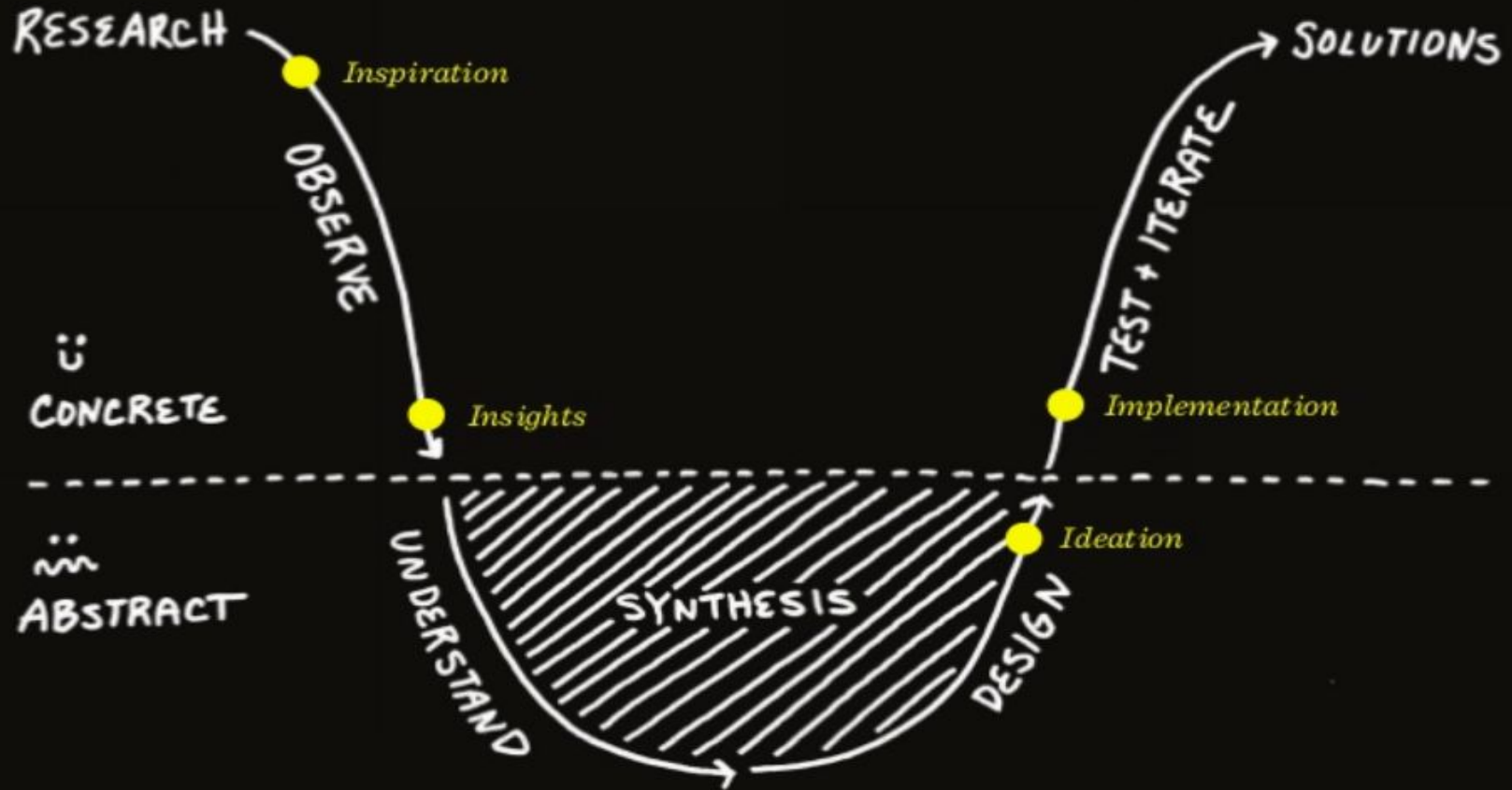The Deep-Dive process comprises of the following steps:

- Understand

- Observe

- Visualise

- Evaluate

- Implement

IDEO Steps ..

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and the design flow..

D.school Modes of Design Thinking - Non Linear Cards

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Empathise   Define   Ideate   Prototype   Test
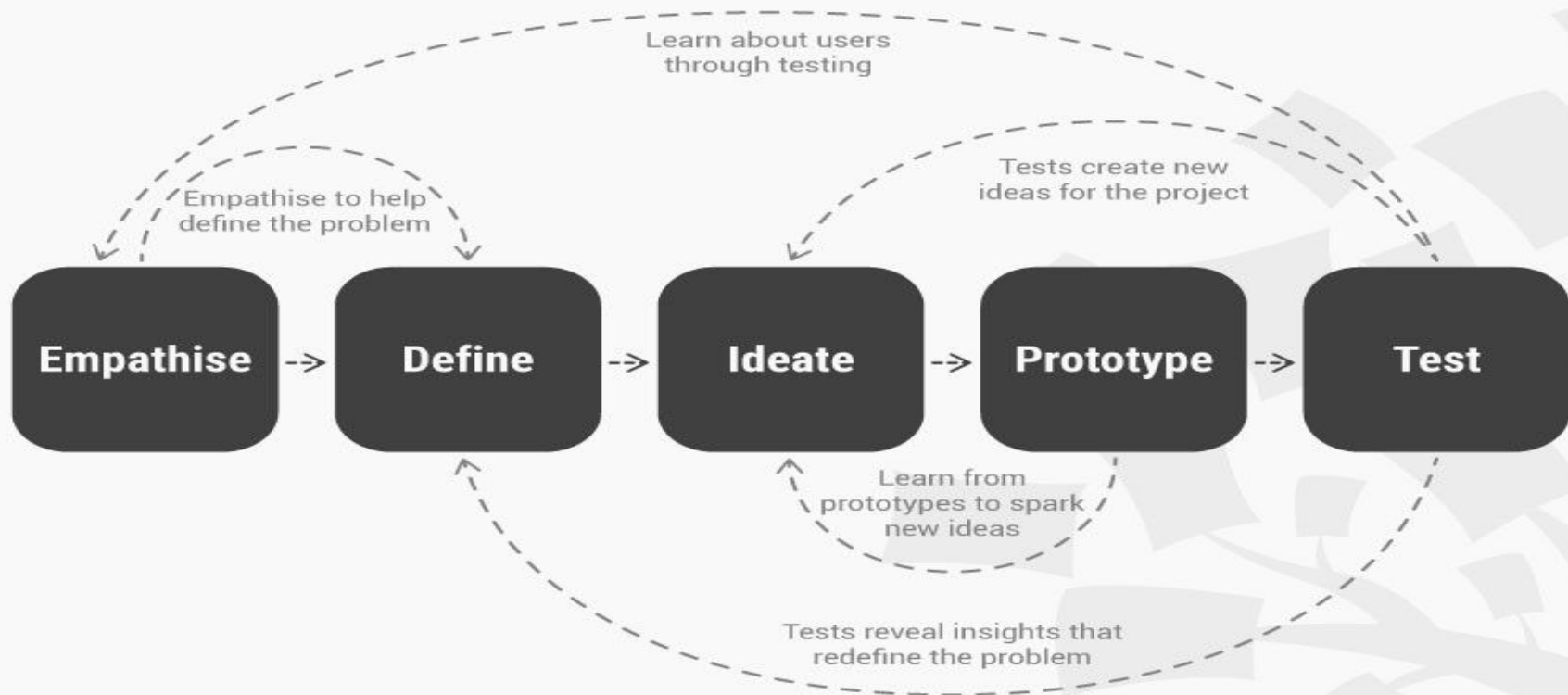
five-phase model proposed by the Hasso-Plattner Institute of Design at Stanford - d.school

DESIGN THINKING: A NON-LINEAR PROCESS

Learn about users through testing

Empathise to help define the problem

Tests create new ideas for the project

Empathise --> **Define** --> **Ideate** --> **Prototype** --> **Test**

Learn from prototypes to spark new ideas

Tests reveal insights that redefine the problem

Thinking as a Process ? Format or Framework ?

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- Empathise – with your users
- Define – your users' needs, their problem, and your insights
- Ideate – by challenging assumptions and creating ideas for innovative solutions
- Prototype – to start creating solutions
- Test – solutions

Order ?

Sequence/Parallel?

Card: Empathize

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- Foundation of human-centered design
- Empathy for your users by learning their values

Observe.
View users and their behavior in the
context of their lives.

Engage.
Interact with and interview users through
both scheduled and short 'intercept'
encounters.

Immerse.
Wear your users' shoes. Experience what
they experience for a mile or two.

Card: Define

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Unpack your empathy findings into needs and insights and cope a meaningful challenge

Actionable Problem Statement

POV: Your point of view is a unique design vision that is framed by your specific users not just defining the problem

Ideate

Ideate is the mode in which you generate radical design alternatives. Ideation is a process of "going wide" in terms of concepts and outcomes—a mode of "flaring" instead of "focus". The goal of ideation is to explore a wide solution space—both a large quantity and broad diversity of ideas. From this vast repository of ideas, you can build prototypes to test with users.

Prototype

Prototyping gets ideas out of your head and into the world. A prototype can be anything that takes a physical form—a wall of post-its, a role-playing activity, an object. In early stages, keep prototypes inexpensive and low resolution to learn quickly and explore possibilities.

TEST

Test your solution

Gather feedback

Refine Solutions

Continue learning about users iteratively

Prototype as if you are right and test as if you are wrong!

"HANDS-ON" DESIGN THINKING WORKSHOP

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YOUR Problem...

Truck driver tried passing under bridge

Got stuck

Neither Forward nor backward

Massive traffic jams

How will you solve ?

REFERENCES

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https://dschool.stanford.edu/resources/design-thinking-bootleg

https://www.interaction-design.org/literature/article/design-thinking-a-quick-overview

https://www.ideo.com/post/method-cards