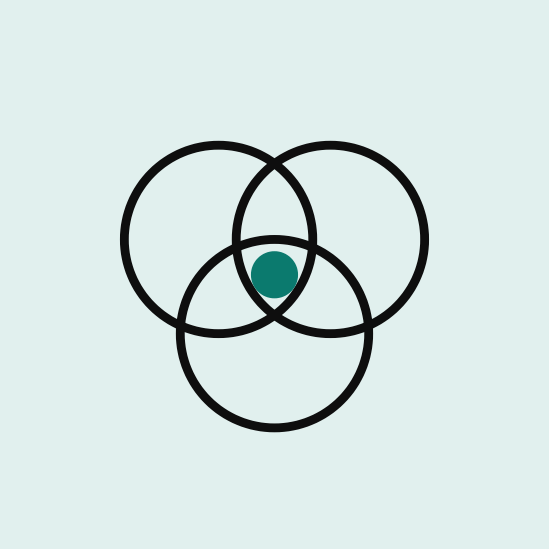
Approach

Design thinking

A way of tackling open problems with design methods: understanding people, reframing the problem, generating many options and learning by prototyping.



> **Not to be confused with Double Diamond.** Design thinking is how you think; the double diamond is how you order the project's steps.

Origin

Roots in design research (Simon, 1969; Cross, 1982); Rowe (1987) and Buchanan (1992) in design theory; spread by Brown (2008) and the Stanford d.school

What it's for

Many problems have no clear statement and no single right solution. Design thinking offers a way to move forward on them without having all the information at the start.

Principles

Focus on people

Understand their needs before proposing anything.

Reframe the problem

Build a new frame from what you learn, instead of solving the brief as it arrived.

Balance three criteria

The idea should be desirable for people, feasible with the technology and viable for whoever sustains it.

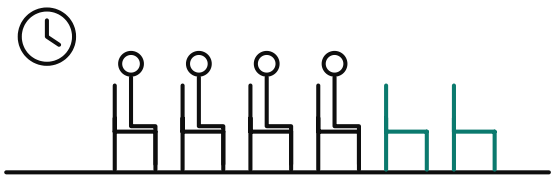
Learn by prototyping

Test early and go back if needed.

An example

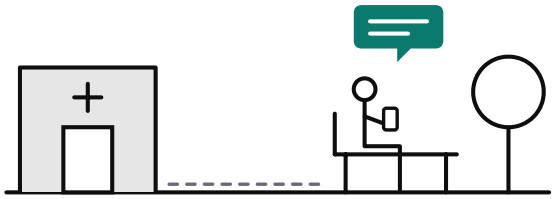
A clinic gets complaints because the wait feels endless.

Straight to the solution



More chairs are bought for the waiting room. **People are still stuck in the room.**

Reframe the problem



The team notices that nobody steps away for fear of losing their turn, and tries texting people when their turn is close. **People can wait somewhere else.**

The first answer accepted the brief (“the room is uncomfortable”); the second changed the question (“why do people have to wait there?”).

How it’s done

1 

Understand and define. Observe people and reframe the problem with what you learn.

2 

Ideate. Many options before settling on one.

3 

Prototype and test. Build something quickly and learn from how people use it. If needed, go back.

Applications in design

✓ When to use it

As a way of thinking through the whole project. To organise it into phases, lean on a map such as the double diamond or the d.school’s five modes.

✗ Avoid

Reducing it to a workshop with sticky notes: without research with real people or critique of what comes out, it’s just brainstorming.

Don’t fall for it

The phases aren’t a linear recipe and don’t guarantee results: go back when a prototype teaches you something new, and check whether the solution worked.

50 projects

What the research says

50 projects studied over seven years in business, health care and social services led Liedtka (2018) to conclude that its steps help teams see beyond their own assumptions.

●●○ **Debated evidence.** These are observed cases, not experiments. The review by Micheli et al. (2019) clarifies what it is, but its results are still debated.

Connections

Builds on

- Problem–solution co-evolution
- Desirability, feasibility, viability
- Design studies
- Insight
- Four orders of design
- Reflective practice
- Wicked problems
- Design synthesis

Used by

- Design-driven innovation
- Design for health
- Food design
- Design research

Related to

- How might we...?
- Human-centered design
- Double Diamond
- In-depth interview
- Prototyping

Authors and works

1969	**Herbert A. Simon**	Proposed studying design as a science of its own: the science of the artificial.
1982	**Nigel Cross**	Argued that design has its own way of knowing, distinct from that of the sciences and the humanities.
1987	**Peter Rowe**	Gave this title to his study of how architects and urban planners design, based on observing them at work.
1992	**Richard Buchanan**	Explained that design works with "wicked" problems, which can't be fully defined before being solved.
2008	**Tim Brown**	Presented it to businesses as a way to match what people need with what technology allows and what a viable business can sustain.
2011	**Lucy Kimbell**	Distinguished three meanings of the term: designers' way of thinking, a general theory of design and a resource for organizations to innovate. She criticized how it separates thinking from doing and erases the diversity of practices.
2011	**Kees Dorst**	Placed its core in design's abductive reasoning. When only the value sought is known, a new frame for looking at the problem has to be created.
2017	**Natasha Jen**	In a 99U talk she criticized its reduction to sticky notes and a repeatable formula, and called for evidence and design critique.
	Stanford d.school	Teaches it in five modes: empathize, define, ideate, prototype and test.
2018	**Jeanne Liedtka**	After studying 50 projects over seven years, described it as a "social technology" that helps teams overcome their biases and habits.
2019	**Pietro Micheli et al.**	Reviewed the literature and found shared attributes, such as focusing on people, iterating, collaborating across disciplines, visualizing, abductive reasoning and tolerating ambiguity. They warn that the term has so many meanings it risks becoming empty.

Sources

Original sources

- Simon, H. A. (1969). The sciences of the artificial. The MIT Press.
- Cross, N. (1982). Designerly ways of knowing. Design Studies, 3(4), 221–227. View source (https://doi.org/10.1016/0142-694X(82)90040-0)
- Rowe, P. G. (1987). Design thinking. MIT Press.
- Buchanan, R. (1992). Wicked problems in design thinking. Design Issues, 8(2), 5–21. View source (https://doi.org/10.2307/1511637)
- Brown, T. (2008). Design thinking. Harvard Business Review, 86(6), 84–92. View source (https://hbr.org/2008/06/design-thinking)

- Dorst, K. (2011). The core of 'design thinking' and its application. Design Studies, 32(6), 521–532. View source (https://doi.org/10.1016/j.destud.2011.07.006)
- Jen, N. (2017). Design thinking is bullsh*t [Conferencia]. 99U Conference. View source (https://vimeo.com/228126880)
- Liedtka, J. (2018). Why design thinking works. Harvard Business Review, 96(5). View source (https://hbr.org/2018/09/why-design-thinking-works)

Academic reviews

- Kimbell, L. (2011). Rethinking design thinking: Part I. Design and Culture, 3(3), 285–306. View source (https://doi.org/10.2752/175470811X13071166525216)
- Micheli, P., Wilner, S. J. S., Bhatti, S. H., Mura, M., & Beverland, M. B. (2019). Doing design thinking: Conceptual review, synthesis, and research agenda. Journal of Product Innovation Management, 36(2), 124–148. View source (https://doi.org/10.1111/jpim.12466)

Secondary sources

- Hasso Plattner Institute of Design at Stanford (2018). Design thinking bootleg. Stanford d.school. View source (https://dschool.stanford.edu/resources/design-thinking-bootleg)

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