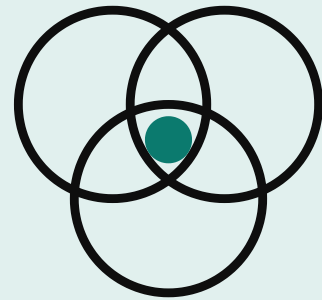


Design thinking

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

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

Restate it with what you learn.

Learn by prototyping

Test early and go back if needed.

How it's done

1



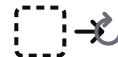
Understand and define. Observe people and reframe the problem with what you learn.

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

When the problem isn't clear yet: it helps you find it, not just solve it.

✗ Avoid

Reducing it to a workshop with sticky notes: without research with real people, it's just brainstorming.

👁 Don't fall for it

The phases aren't a linear recipe: go back when a prototype teaches you something new.

Connections

Builds on

■ Desirability, feasibility, viability

■ Design studies

■ Four orders of design

Related to

■ How might we...?

■ Human-centered design

■ Design-driven innovation

■ Double Diamond

■ In-depth interview

■ Design research

■ 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 meet needs in a technologically feasible and strategically viable way.
	Stanford d.school	Teaches it in five modes: empathize, define, ideate, prototype and test.

Sources

Original sources

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- 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\)](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 \(https://doi.org/10.2307/1511637\)](https://doi.org/10.2307/1511637)
- Brown, T. (2008). Design thinking. Harvard Business Review, 86(6), 84–92. [View source \(https://hbr.org/2008/06/design-thinking\)](https://hbr.org/2008/06/design-thinking)

Secondary sources

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