

Design Methodologies

Dr. ir. Troy Nachtigall and Dr. Marco Mossinkoff

License and Terms of Use

The Transitions Project Open Educational Resources are educational materials that complement the modular curricula developed within the Transitions project under the GA 101056544.

The materials are licensed under the Creative Commons Attribution-ShareAlike 4.0 International license, allowing users to use, remix, and share them, provided that they adhere to the following conditions:

- Attribution: The original creator must be clearly credited, either as an attribution or reference for any remixed content.
- Source Link: The user must include a link to transitionsproject.eu to direct learners to the original source.
- Branding: The Transitions project logo must be displayed either on the slides or in the credits."
- ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the [same license](https://creativecommons.org/licenses/by-sa/4.0/) as the original.

The Importance of Design

Design enables systemic change by addressing novel, complex, and ambiguous challenges that lack precedent. While AI excels at automating known, repetitive tasks—optimizing based on patterns it has been trained on—it cannot independently frame problems or *imagine futures* that do not yet exist.

Design's strength lies in its generative capacity: to reframe assumptions, synthesize diverse perspectives, and produce new ways of seeing and doing. Designers operate where data is insufficient or irrelevant, where *cultural, ethical, and contextual nuance* matter.

In this context, design is not opposed to AI but transcends it—engaging with the unknown to create the conditions AI may later operate within. Design drives the creation of futures that have *no dataset*. Transitions is here to help you design a new future for Fashion and Textiles.

Design Thinking

Definition:

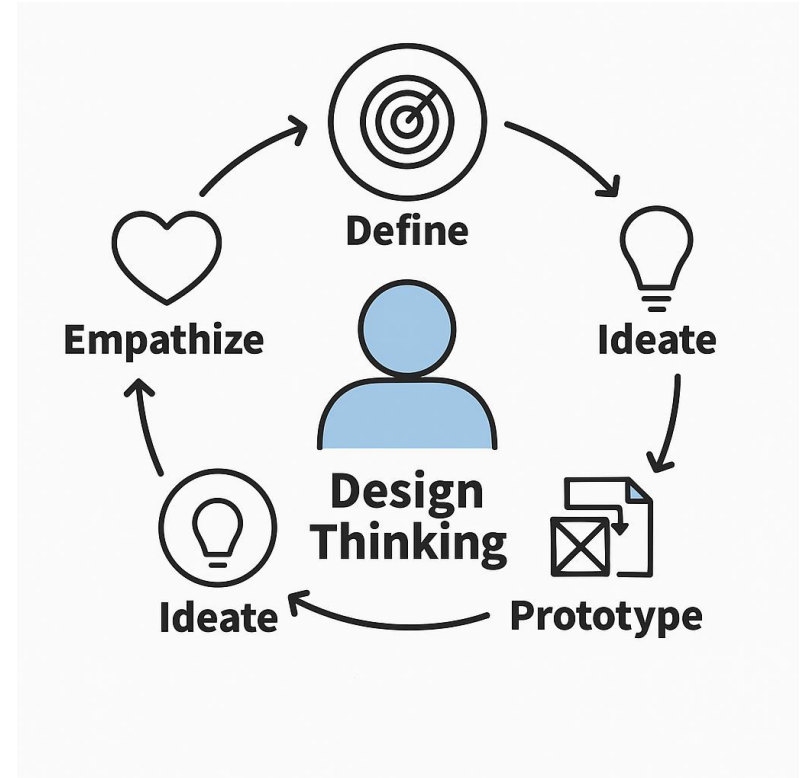
A **human-centered, iterative** approach focusing on **empathy, ideation, and experimentation**.

How:

Empathize, Define, Ideate, Prototype, Test.

Applications:

Innovation in product and service design.



Research through Design

Definition:

A research methodology where **design acts** as the method for inquiry and knowledge generation.

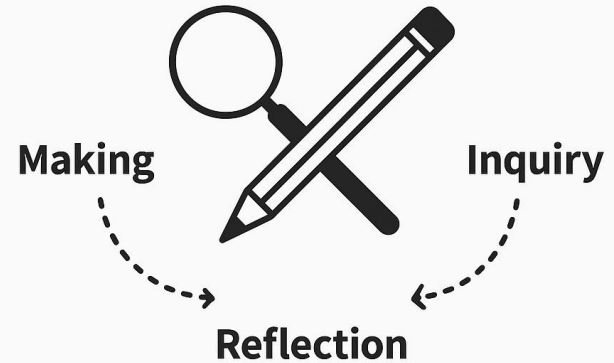
How:

Involves **iterative making, reflection, and artifact creation** to develop and communicate insights.

Application:

Found in Human-Computer Interaction (HCI), interaction design, and artistic and creative research contexts.

Research through Design



Double Diamond Methodology

Definition:

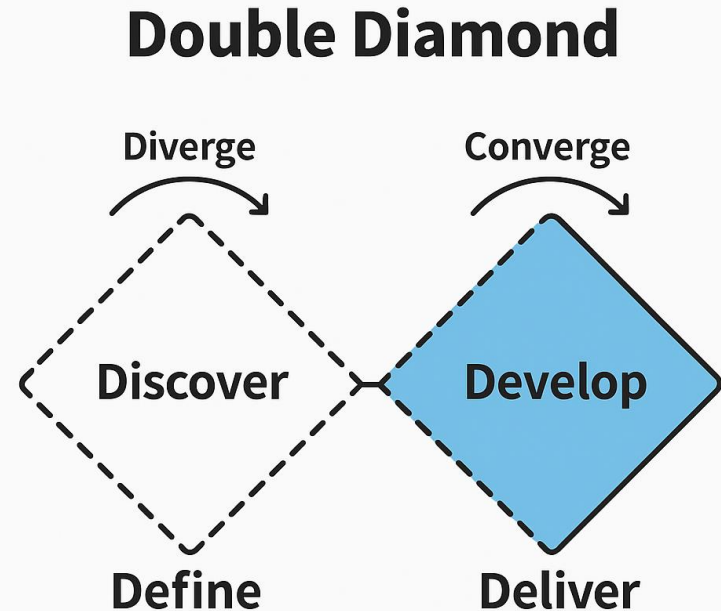
A **structured design framework** from the UK Design Council emphasizing divergent and convergent thinking.

How:

Discover → **Define** → **Develop** → **Deliver**.

Applications:

Used in policy-making, service design, and product or collection development.



Speculative Design

Definition:

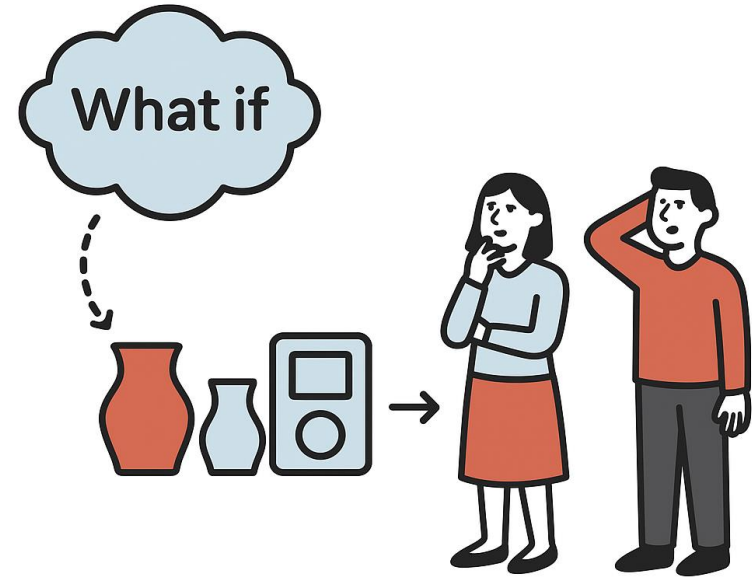
A Design method focused on questioning norms and **imagining alternative futures** through provocation.

How:

Develop **fictional artifacts** and scenarios that challenge assumptions and invite debate.

Application:

Strategic foresight, fashion as social innovation, critical approaches to clothing functionality, public discourse engagement.



Speculative Design

Participatory Design

Definition:

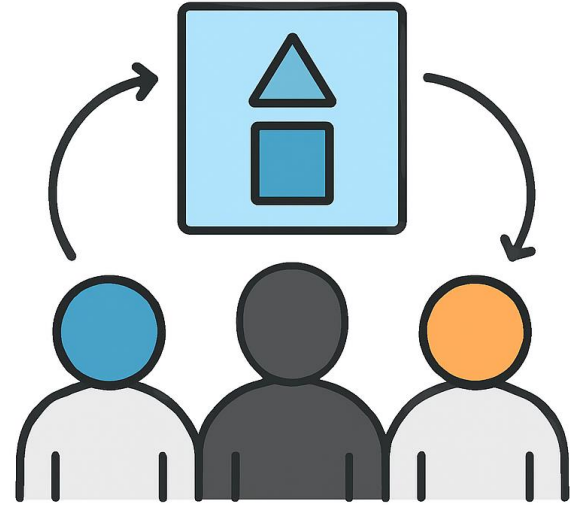
A design methodology that includes **users and stakeholders as active collaborators** throughout the design process.

How:

Utilizes **co-design workshops, iterative feedback, and stakeholder involvement** to shape outcomes.

Application:

Employed in inclusive fashion systems, civic design projects, and community-driven textile initiatives.



Participatory Design

1st Person Perspective Design – 1PP

Definition:

A design methodology emphasizing the **designer's embodied experience** as a tool for knowledge generation.

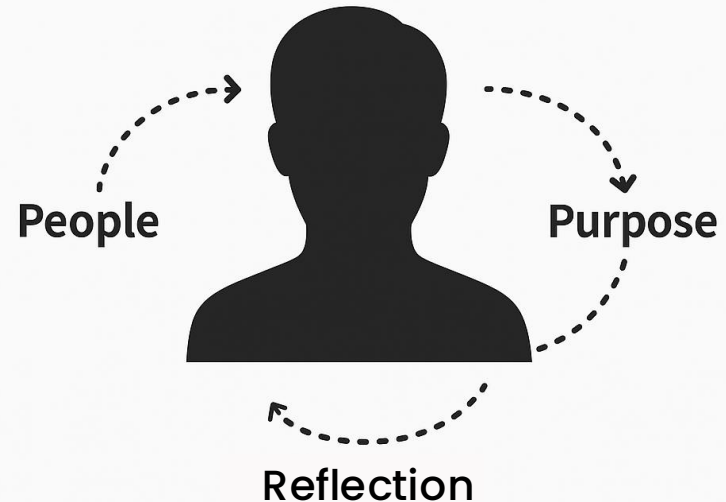
How:

Autobiographical design **notebooks** and **annotations** on self-reflective practice.

Applications:

Evidencing **Situated knowledge** & **subjective insights**. Measuring wearing and **embodied experience**

1st-Person Perspective



Circular Design

Definition:

A design strategy aligned with **circular economy** principles to maintain materials at their highest energetic and functional value for as long as possible.

How:

Develop **repairability, modularity, and closed-loop** systems in materials and products.

Application:

Used in textile recycling schemes, design-for-disassembly in garments, and lifecycle design tools.



Circular Design

Digital Craftsmanship

Definition:

A framework **integrating digital tools with traditional craftsmanship** to explore hybrid design practices.

How:

Explore the **agency of machines and materials through collaborative making** processes.

Application:

Applied in generative design, hybrid fabrication, and digital-textile interactions.



Material Engagement & Sample Making

Definition:

A practice-based methodology centered on **material exploration** through **iterative, hands-on experimentation**.

How:

Designers **explore materials** through iteration, **documenting the process** to reveal unexpected properties.

Application:

Used in textile innovation, biomaterial research, and sustainable product development.



More Than Human (MTH)

Definition:

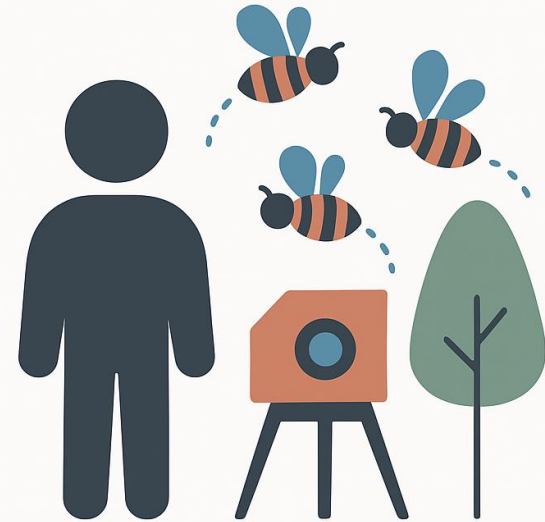
A posthumanist design approach that includes **non-human agents—animals, environments, technologies**—as design stakeholders.

How:

Challenge anthropocentrism, applying **multi-species ethnography** and **ecological systems thinking**.

Application:

Found in sustainable design, regenerative textiles, AI ethics, and speculative futures involving biosystems and intelligent environments.



More than Human

Material Speculation

Definition:

A design method using **real, functional prototypes** to explore speculative or alternative futures.

How:

Constructs **materially embodied “what-if” scenarios** through hands-on fabrication.

Application:

Seen in critical design, design fiction, fashion strategy and experiential futures.

MATERIAL SPECULATION



Data (and Algorithms) as a Material

Definition:

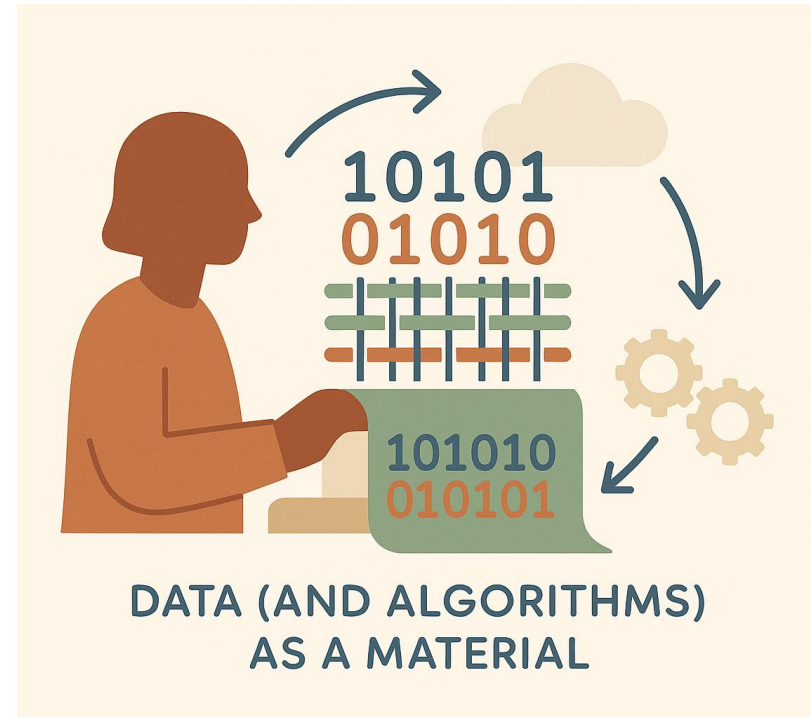
A design approach that treats data and algorithmic logic as **core materials** in the design process.

How:

Integrates **sensing, computation, and feedback** systems into physical-digital hybrids.

Application:

Wearable interfaces, personalized systems, and interactive product-service ecosystems.



Slow Design

Definition:

A design method that emphasizes **reflection, slowness, and long-term engagement** to challenge fast-paced consumption and interaction.

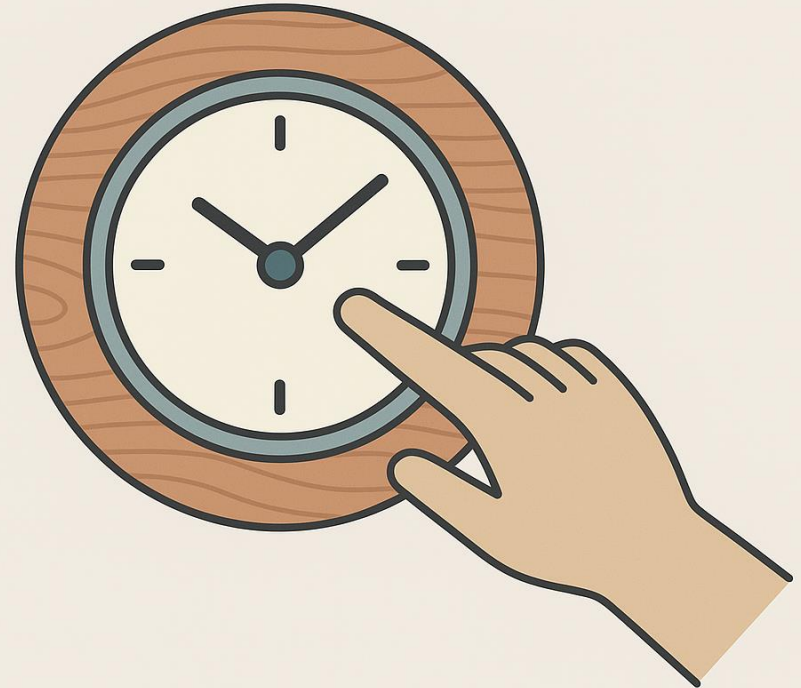
How:

Create artifacts that **evolve slowly** or require repeated interaction over time to foster deep meaning.

Application:

Used in designing reflective systems, artisan crafted textiles and clothing, domestic functional apparel technologies, and sustainable wearing experiences.

Slow Design



Research Products

Definition:

Material artifacts developed in research through design that **embody theoretical arguments** and contribute to knowledge production.

How:

Design products to **circulate as finished, fully functional** artifacts that enable long-term engagement with users and researchers.

Application:

Common in HCI (human computer interaction) design to demonstrate and explore research insights in-situ over time. Question fashion as a system of innovation and source of rents.



Soma Design

Definition:

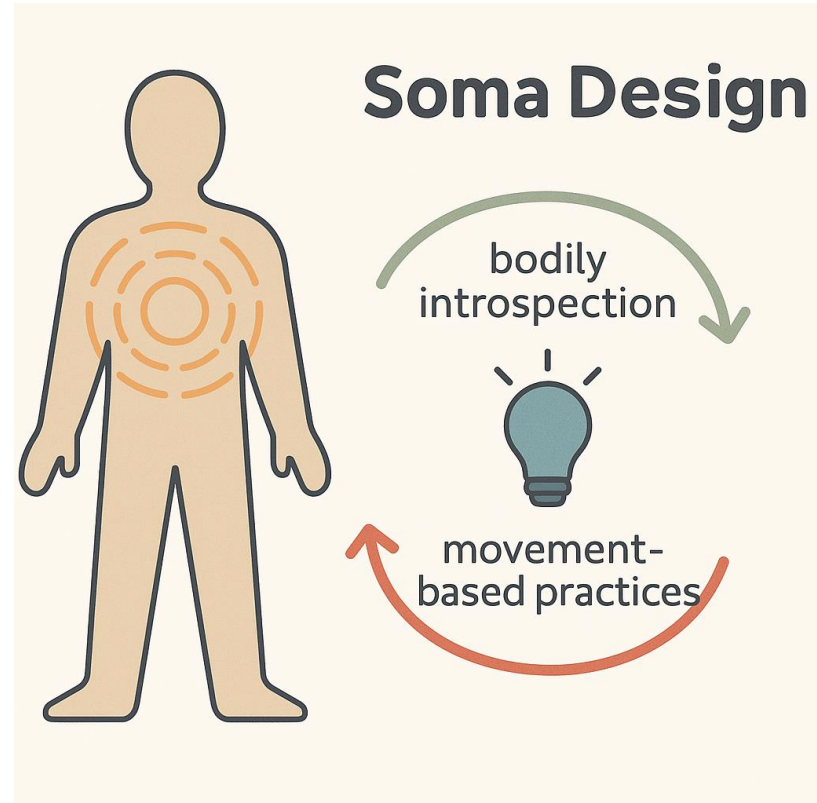
A design methodology centered on the **lived, felt bodily experience**, integrating somaesthetic philosophy into interaction design.

How:

Engage designers and users in **bodily introspection and movement-based practices** to inform and shape design.

Application:

Used in wearable technology, interactive installations, and health-focused design to promote bodily awareness and aesthetic engagement.



Critical and Discursive Design

Definition:

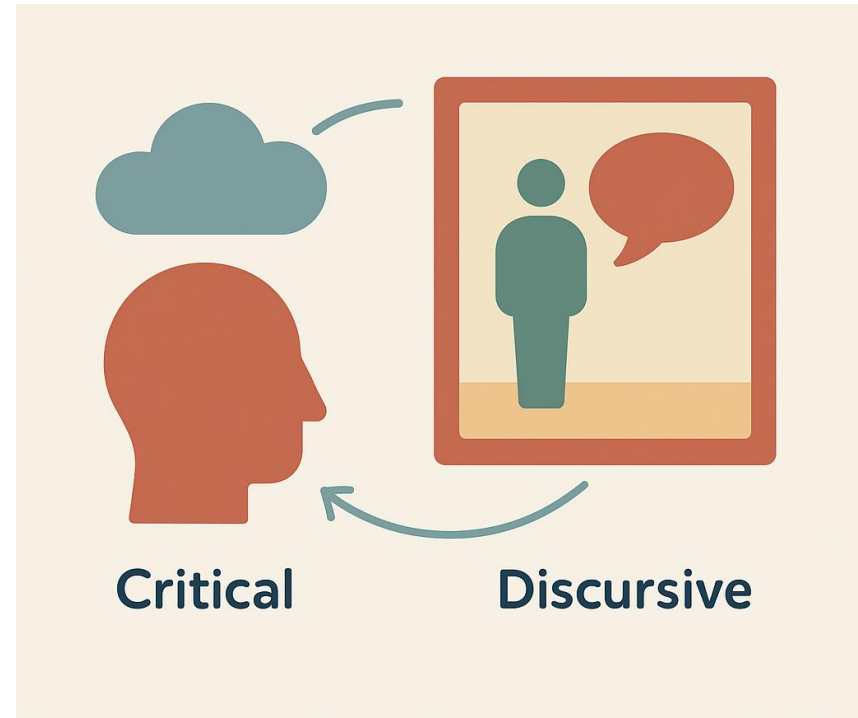
A methodology focused on **provoking reflection and critique** rather than solving utilitarian problems.

How:

Uses **speculative artifacts and narrative-driven prototypes** to explore societal, ethical, or political themes.

Application:

Found in activist fashion, wearable provocations, and critical commentary on labor, identity, or surveillance.



Regenerative Design

Definition:

A design practice that **restores and enhances ecological and social systems**, going beyond sustainability.

How:

Work with **local ecologies, natural cycles, and regenerative materials** to co-create value with the primary sector.

Application:

Bio-based textiles, soil-enriching garments, and regenerative fashion farming systems.



Regenerative Design

The Future of Design

AMFI
AMSTERDAM FASHION INSTITUTE

Fashion Business and Development
**Unlocking
Transparency: The
Rise of Digital
Product Passports
in Textiles**



The future of design as a discipline demands an **approach that is interwoven**—connecting materials, data, business models, and human needs. Rather than separating methods from systems, Textile Thinking recognizes that these strands must be designed together, in relation. It is not enough to optimize parts. We must design the fabric of practice itself.

This shift aligns with the **Quintuple Helix**: academic, industrial, societal, environmental, and governmental actors all play a role in shaping sustainable futures. Textile Thinking makes these layers visible and actionable—giving form to new relations across disciplines, policies, and infrastructures.

Designers are increasingly asked to work in these entangled contexts. **Textile Thinking** provides a way to do so—by weaving together diverse threads of knowledge, responsibility, and care into cohesive, real-world transitions.

transiti*ns