



**Mainstreaming Inclusive Innovation
and Social Entrepreneurship
in Higher Education**

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InnoSocial Course in Inclusive Innovation and Social Entrepreneurship

Module 2. Designing inclusive innovations to solve societal challenges

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Case study



Key Symbols



**Definition/ theoretical
background**



**Teaching/learning
activities**



Tips



Video



**Additional resources/
further reading**



**Case studies/good
practices**



Learning outcomes

Module II		
Units/Topics 1-4:		
KNOWLEDGE	SKILLS	ATTITUDES
The trainee will be able to: • understand the structure of the innovation process and describe its stages; • identify the peculiarities of “design thinking” and “human-centred design” as frameworks conducive to social and inclusive innovation; • relate different creativity/innovation methods and techniques to different stages of the design thinking process.	The trainee will be able to: • use the “design thinking” approach to addressing social and environmental challenges; • apply creativity/innovation techniques for designing an innovative solution to a social and/or environmental problem.	The trainee will be able to: • demonstrate creativity in the innovation process.



Unit 2.1 Social innovation process

Social Innovation & Inclusive Innovation



Social innovation pertains to innovative activities and services that are driven by the objective of fulfilling a societal need.

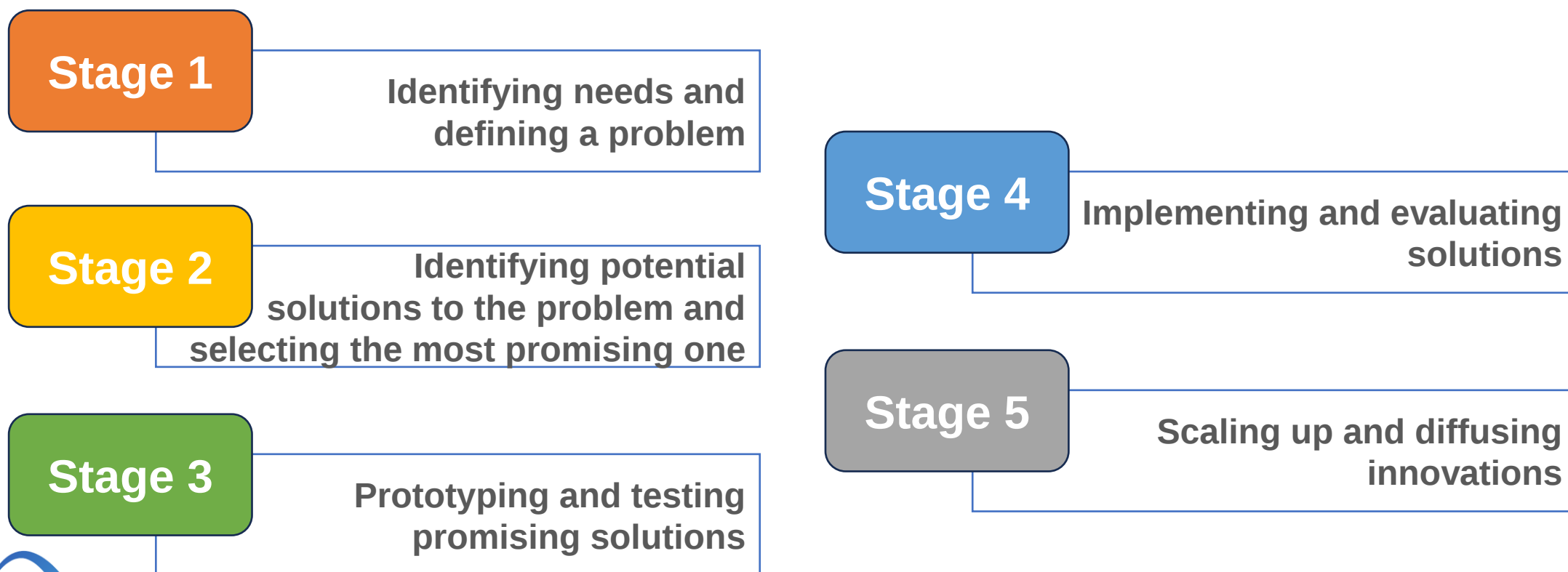
Inclusive innovation, as a form of social innovation, is specifically directed towards populations that are excluded, underserved, or underrepresented, such as youth, women, the elderly, persons with disabilities, migrants, refugees, and low-income groups.

Inclusive innovation aims to enhance the quality of life for these groups at an affordable cost.

It involves addressing the social needs of these groups and actively engaging them in the innovation process (Goel, 2011).



Social Innovation Process



Social Innovation process: Stage 1

Stage 1

Identifying needs and
defining a problem

- 1. Understanding social or environmental needs:** through analysis of government priorities for development, issues addressed by social movements and voluntary organizations, and challenges faced by individuals.
- 2. Providing a vision of the future where the needs are met:** highlighting the disparity between the current reality and the envisioned future.
- 3. Identifying a problem:** articulating precise objectives (problem statements) and transforming them into a focused question.

Examples of methods and techniques: “Observation What? How? Why” and “Empathizing through Interviews” for needs analysis; “Point of View Madlib and Want Ad” and “Critical Reading Checklist” for providing a vision and identifying a problem.

Social Innovation process: Stage 2

Stage 2

Identifying potential
solutions to the problem and
selecting the most promising one

1. Social and environmental problems (e.g. poverty, education, climate change) are complex. Tackling them often requires **creating complex, multidisciplinary solutions** (Becker & Smith, 2018).
2. Finding solutions means **engaging in an intense idea generation process** that should be preferably done in a multi-stakeholder / multi-disciplinary team.
3. Idea generation process should **focus on a single problem statement** (question) at a time, and allow enough time to produce ideas.
4. **Generated ideas should be evaluated** to select the most promising one that will be taken to the next stage.



Examples of methods and techniques: “How Might We”, “Brainstorming”, “Bodystorming”.

Social Innovation process: Stage 3

Stage 3

Prototyping and testing
promising solutions

- 1. A prototype** is defined as a system developed to empirically test an innovation (Lai & Locatelli, 2020). Prototypes serve to get feedback of potential users before the transition of an innovation to the implementation stage.
- 2. Forms:** a prototype may be either physical or digital, low-fidelity or high-fidelity, represent a real object or be presented as a diagram, scheme, 2D, 3D or multidimensional model, depending on the purpose of innovation (Houde & Hill, 1997).
- 3. Testing:** a prototype should be presented to the intended users of the innovation, the team developing it, and to the stakeholder organizations supporting its development.

Examples of methods and techniques: “Prototyping for testing”, “Feedback Capture Grid”.

Social Innovation process: Stage 4

Stage 4

Implementing and evaluating
solutions

- 1. Implementation of innovation** is focused on incorporating the solution into the targeted community or system. It is crucial to collaborate with different stakeholder groups for successful implementation of innovation.
- 2.** The implementation stage is followed by a **systematic evaluation** to assess the effectiveness of social innovation. It involves gathering stakeholders' feedback, juxtaposing outcomes with objectives, and possibly adjusting the solution accordingly.

Examples of methods and techniques: PESTLE analysis and Social Business Model Canvas can help in planning the implementation of innovation.



Social Innovation process: Stage 5

Stage 5

Scaling up and diffusing
innovations

1. **Scaling of innovation:** facilitating the adoption of innovative by other communities or regions.
2. **Innovation scaling strategies** (Dees, Anderson & Wei-Skillern, 2004):
 - Dissemination - spreading information to those looking to bring an innovation to their community.
 - Affiliation - building a formal relationship between two or more parties based on an agreement to be part of an affiliate network.
 - Branching - establishing local offices by a single overarching organization.
3. **Innovation scaling strategies** (Mulgan, 2006)
 - Organic growth - natural expansion of the organization that came up with innovation to other regions (branching).
 - Cooperation with established organizations that can support scaling.
 - Soliciting support of governments that can support social innovation by, e.g. allocating funds.

Stage 1

Understanding pressing social and environmental challenges

Observation, stakeholder engagement, empathizing, identifying root causes of the problem

Stage 2

Generating and assessing ideas for tackling the identified challenges

Creative thinking, collaborative problem-solving, integration of diverse perspectives, criteria-based assessment

Stage 3

Creating and testing prototypes, collecting feedback, refining the innovative solution

Sketches and diagrams, storyboards, Lego prototypes, role playing, physical models, or user driven prototypes

Stage 4

Incorporating the solution into the targeted community or system, and evaluating its effectiveness

Launch of the solution, cooperation with stakeholders, collecting and analysing users' and stakeholders' feedback

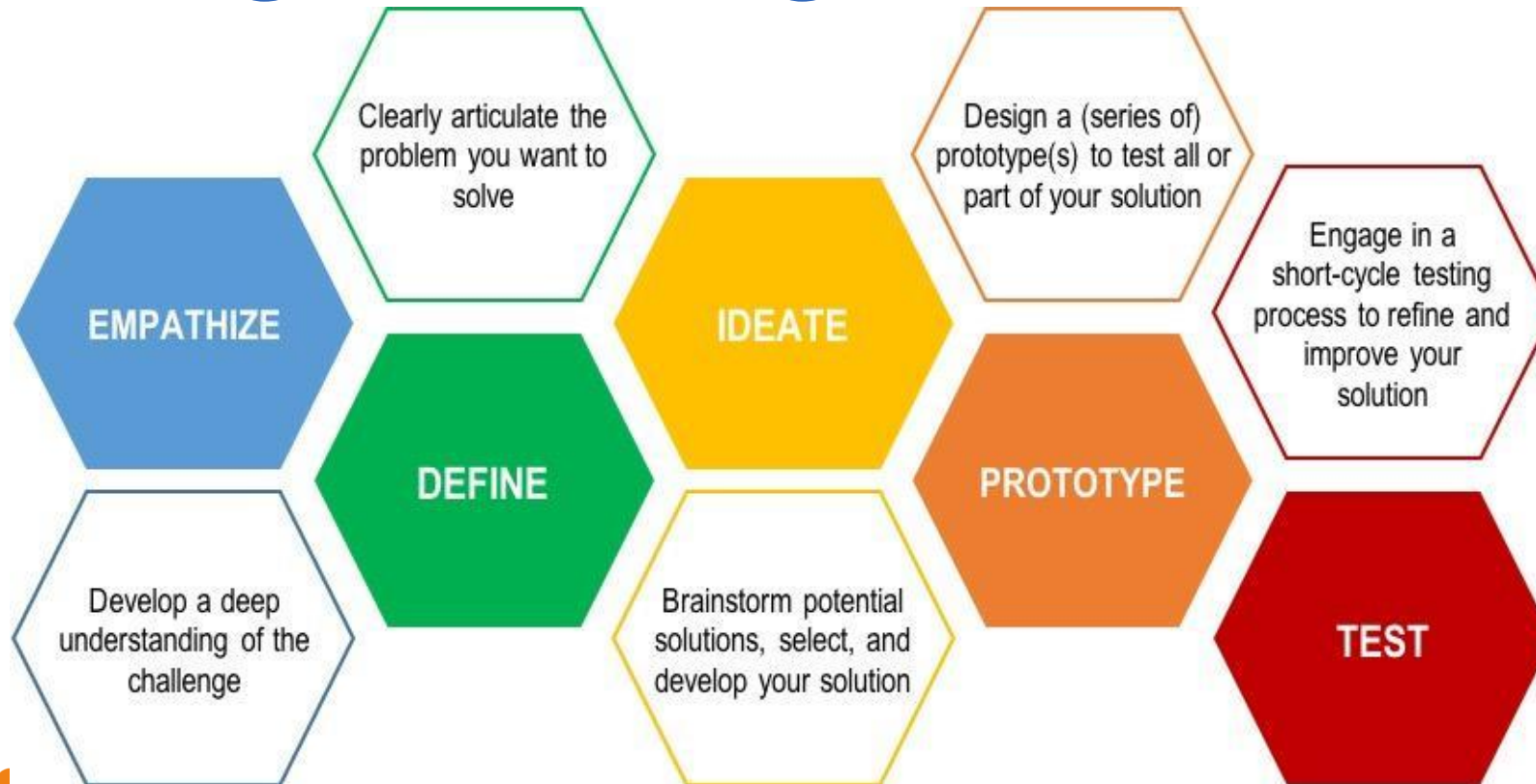
Stage 5

Scaling the innovative solution to make impact on other communities and regions

Stakeholder cooperation, awareness raising, promotion, enhancing accessibility, improving distribution

Unit 2.2 Design thinking and Human-centred design for inclusive innovation

Design thinking



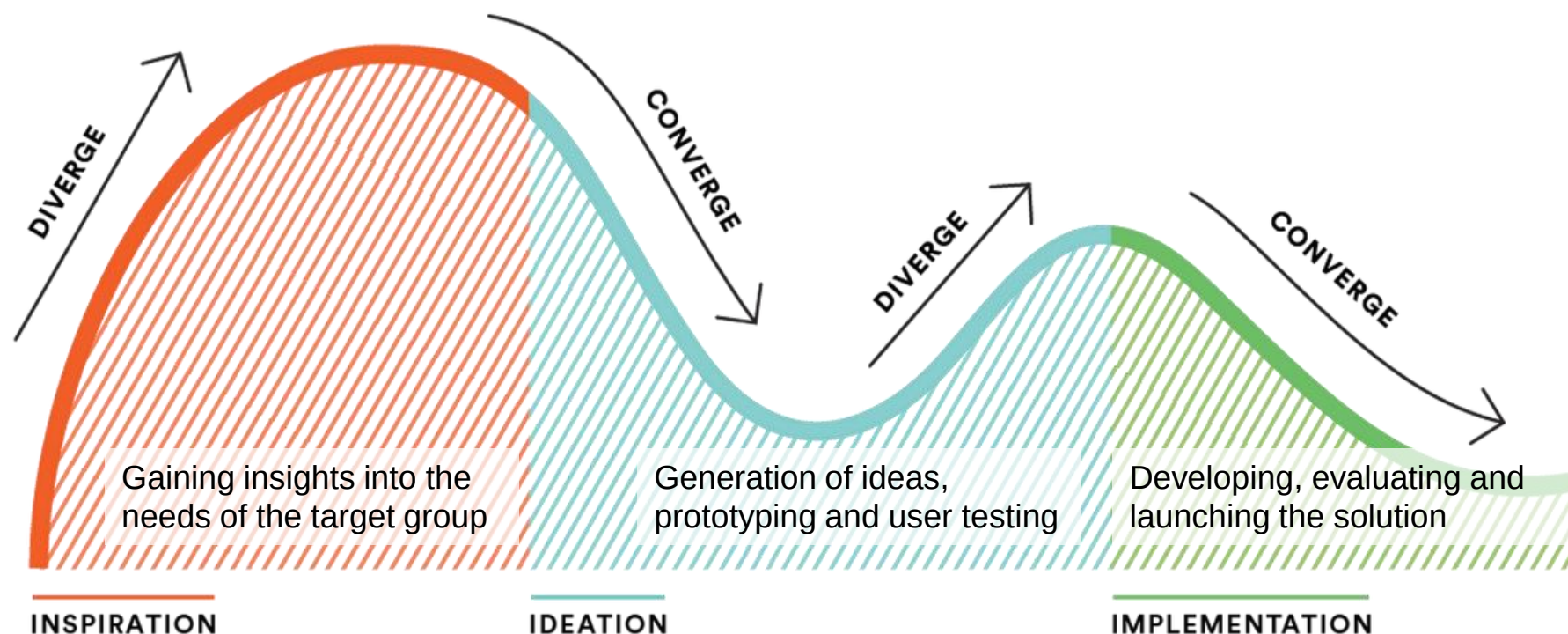
Design Thinking model was developed by Stanford d.school.

It comprises **five iterative (non-linear) steps**, meaning that one can transition from the **PROTOTYPE** stage back to the **DEFINE** stage and vice versa.

It is **user-centred**, favours iterative prototyping and user engagement in testing.

Source: Design Thinking (<https://design-thinking.in/honeycomb%2Fdouble-diamond>)

Human-centred design



Human-centred design model was developed by IDEO.org.

It aims at tackling complex problems by **integrating the human perspective** throughout the problem-solving process.

It has **three phases**. Involvement of people experiencing the problem is crucial in each phase.

Source: IDEO.org design studio (<https://www.ideo.org/>)

Design thinking

An iterative process that leads to the development of an innovative solution that will be adopted by the targeted users.

A five-stage process, involving: Empathizing; Defining a problem; Ideating; Prototyping; and Testing solutions.

A solution-focused process used to solve complex problems by benefitting from diverse perspectives.

A process focused on experimentation and generation of a big number of innovative ideas.

A process bringing about the creativity perspective in the development of innovative solutions to social problems.

Human-centred design



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A mind-set tool that should be applied alongside design thinking in order to create a long-term impact on the targeted users.

A three-stage process, involving: 1) Inspiration; 2) Ideation; and 3) Implementation.

A process promoting the culture of knowledge sharing and collaboration within and outside the organization (incl. Open Innovation).

A process focused on a solution that meets or exceeds the expectations of the targeted users.

A process focused on improving the usability and user experience of a particular product or service.

Source: Carey, Ch. & Domboka, T. (2020)

Design thinking vs. Human-centred design

Design thinking: the main principle is that interdisciplinary teams are able to create outstanding innovations.

Human-centred design: the main goal is to embed the user perspective in the whole innovation process.

Both frameworks are relevant for inclusive innovation because they place a profound emphasis on empathizing with end-users (i.e. with excluded and vulnerable groups in the case of inclusive innovation), understanding their needs, and involving them iteratively in the design journey at different levels (Heeks, 2013):

Level of Intention

Addressing the needs of excluded groups

Level of Consumption

Fostering adoption and absorption of innovation by excluded groups

Level of Process

Enabling participation of excluded groups in the innovation process

Level of Impact

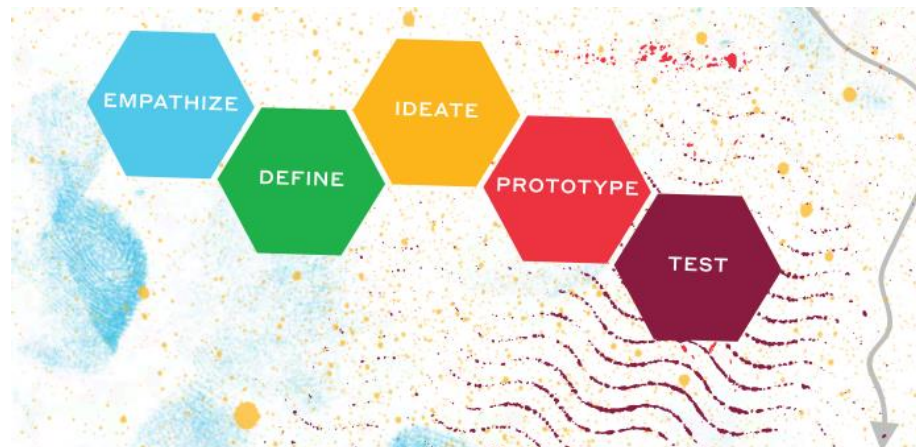
Ensuring positive impact on excluded groups through diffusion of innovation

Unit 2.3 Methods and techniques for design thinking

Techniques for design thinking

Various methods and techniques can be applied in different stages of the design thinking process.

The techniques presented here are taken from the d.school's **Bootcamp Bootleg** – an open source toolkit aimed to facilitate the design thinking practice.



Techniques for Identifying Needs

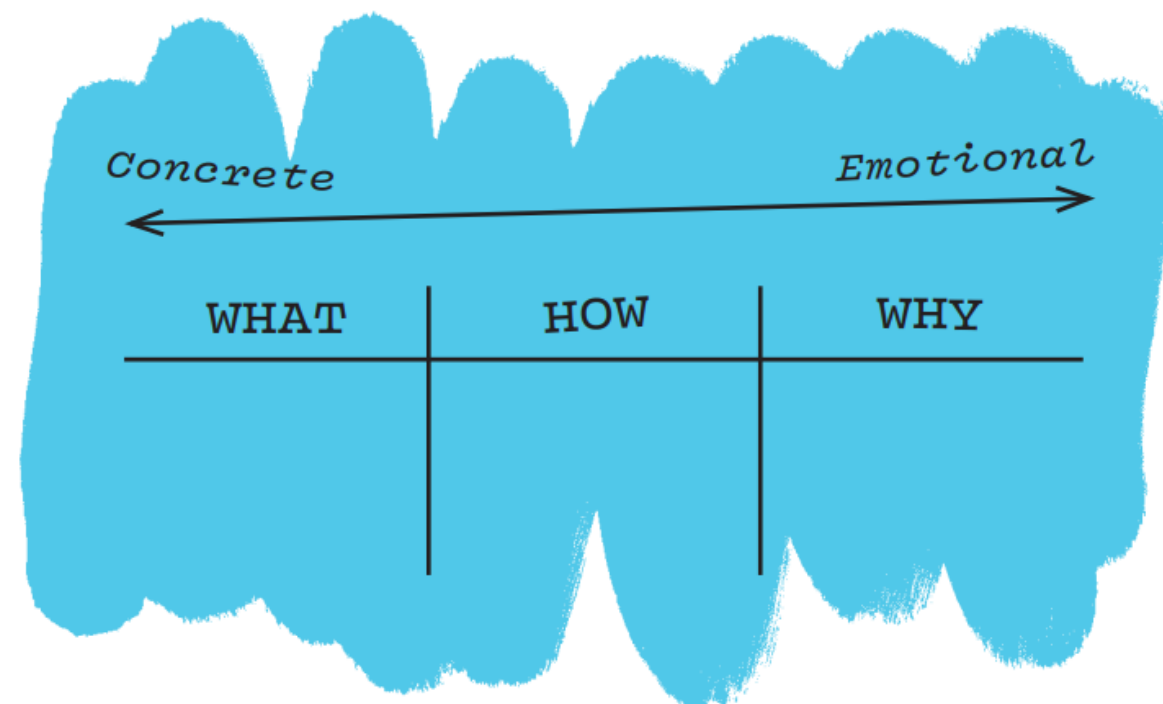
WHAT? HOW? AND WHY?

This technique helps to reach deeper levels of observation. It facilitates the transition from formal observations of a specific situation to the underlying abstract emotions and motivations involved. It is especially useful when examining photos captured during fieldwork.



Implementation tips:

- Observe **WHAT** people are doing (*actions*)
- Understand **HOW** they are doing it (*manner*)
- Infer **WHY** they are doing it (*motivations and emotions*)



concrete

emotional

WHAT (what are they doing in the photo?)	HOW (how are they doing it?)	WHY (why are they doing it this way? Take a guess!)
-little girl picking root vegetables	-she's smiling, even though it looks bigger than her, it looks fun	-somehow it's been made into a game...gardening is fun...getting messy is fun to her?
		

Techniques for Identifying Needs

INTERVIEW FOR EMPATHY

This technique allows for understanding a person's thoughts, emotions, and motivations, with a view to determining how to innovate for them. Through understanding the decisions and actions taken by an individual, it is possible to identify their needs and tailor designs to fulfil them.



Implementation tips:

- Make a list of questions and define the structure of an interview
- Foresee more “WHY” and “HOW DO YOU FEEL” questions
- Encourage interviewees to tell stories

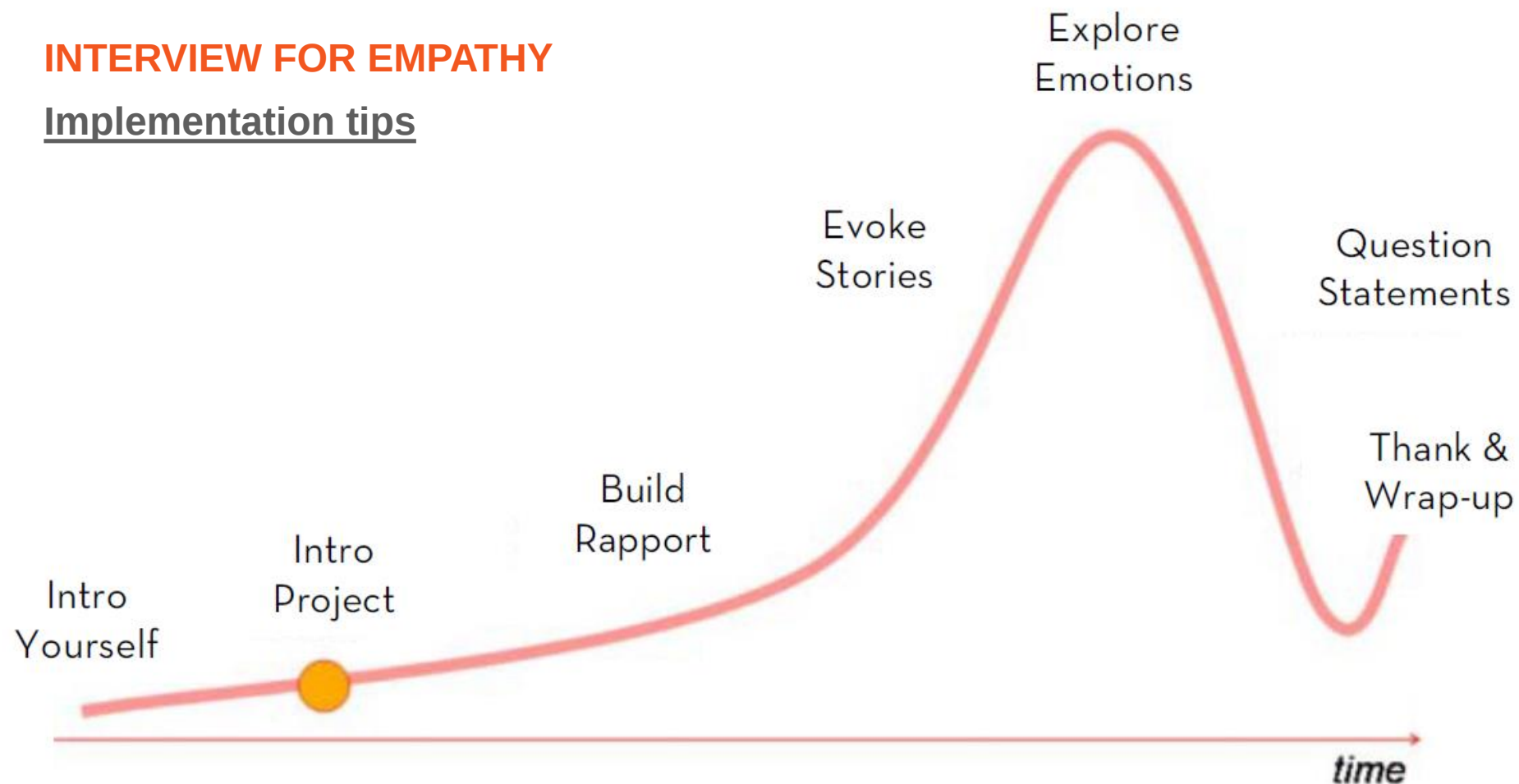


Patrick Beaudouin



INTERVIEW FOR EMPATHY

Implementation tips



Techniques for Defining a problem

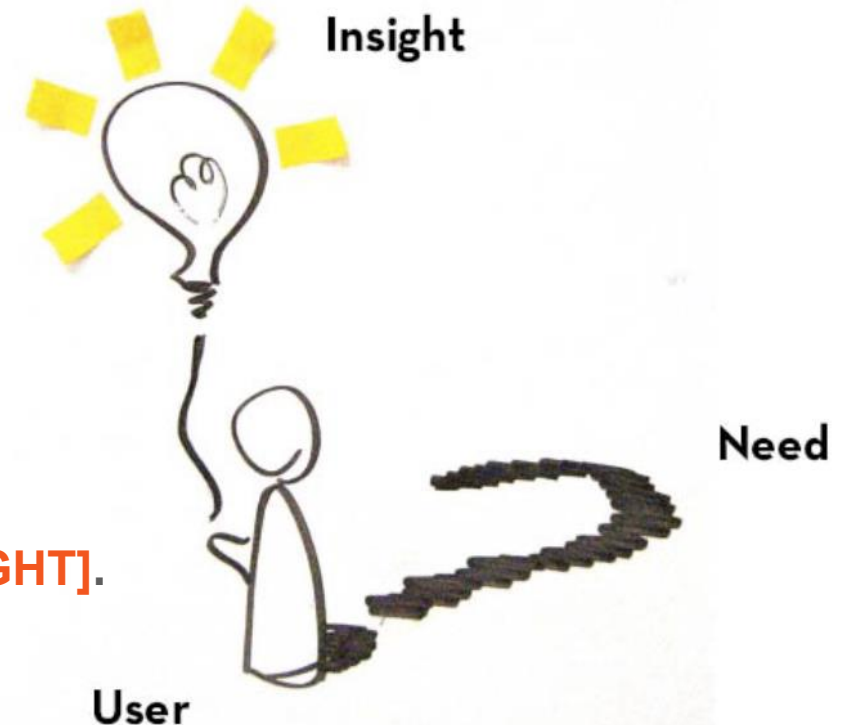
POINT-OF-VIEW MADLIB

This technique helps to develop an actionable problem statement. A well-defined POV enables focused ideation through the formulation of How-Might-We (HMW) questions derived from it. POV encapsulates your design vision.



Implementation tips:

- Use this template:
[USER] needs [USER'S NEED] because [SURPRISING INSIGHT].
- Experiment with various combinations of variables
- Express the needs as verbs
- Make sure the insight represent a synthesized problem statement conducive to designing a solution



POINT-OF-VIEW MADLIB: example



[USER] needs [USER'S NEED] because [SURPRISING INSIGHT]

A teenage girl needs more nutritious food because vitamins are vital to good health.

Factual, not
captivating



A teenage girl experiencing social isolation requires a sense of social acceptance while consuming healthy food, as in her community, social risks outweigh health risks.

More intriguing
and actionable

Techniques for Defining a problem

POINT-OF-VIEW WANT AD

This technique is related to the POV MADLIB. It helps to effectively communicate the synthesized need-finding in an engaging manner. This format highlights a particular user and his/her main characteristics.



Implementation tips:

- Incorporate your user, their need, and your insights into a Want Ad format.
- Experiment with this structure

Descriptive characterization of a user + “seeks” an ambiguous method to meet an implied need, + additional flavour to capture your findings.



POINT-OF-VIEW Want Ad: example



Descriptive characterization of a user + “seeks” an ambiguous method to meet an implied need, + additional flavour to capture your findings.

Example: Adventurous foodie seeks a vibrant culinary community, passionate for sustainable eating practices. The companions should be willing to swap recipes, attend food festivals, and debate the merits of organic versus conventional farming. A love for spontaneous dinner parties and late-night food adventures is a must!



Techniques for Defining a problem

CRITICAL READING CHECKLIST

The Checklist serves as a means to assess whether a team has successfully reached a significant and distinct POV. This Checklist serves to verify that the POV is legitimate, perceptive, actionable, distinctive, focused, meaningful, and engaging.



Implementation tips:

Ask four fundamental questions

- What's the point? (What is your team's perspective?)
- Who says? (How valid is your team's POV?)
- What's new? (What unique contribution does your POV offer?)
- Who cares? (Why does your POV matter?)

Critical Reading Checklist

- 1.) What's the point?
- 2.) Who says?
- 3.) What's new?
- 4.) Who cares?

Critical reading checklist: supporting questions & tips



**What's the
point?**

- How does your team structure its POV?
- Is it centred on the user, driven by needs, and supported by insights?

Who says?

- Is your position aligned with user findings?
- Is it a condensed version of findings applicable beyond a single interview?

**What's
new?**

- Have you presented your findings innovatively?
- Are they situated within a user context?
- If the POV lacks novelty, consider refining it to be more specific.

Who cares?

- Your team should feel enthusiastic about this POV!
- Is this endeavour worthwhile? If not, explore why.
- Reframe or rephrase until it is right.

Techniques for Generating & Selecting ideas

“HOW MIGHT WE” Questions

This technique serves as a catalyst for brainstorming sessions, stemming from your POV statement. These questions should strike a balance between breadth and specificity, encouraging a wide range of solutions while prompting the team to generate unique ideas.



Implementation tips:

- Start by utilizing your POV, insights, or problem statement to formulate concise, actionable HMW questions.
- It is useful to brainstorm these questions before diving into solution brainstorming.
- See next slide for an example.



How might we...: example



Challenge: Enhance the ground experience at the nearby international airport.

POV: Harried mother of three, rushing through the airport only to wait hours at the gate, needs to entertain her playful children because “annoying little brats” only irritate already frustrated fellow passengers.

Amp up the good: HMW use the kids’ energy to entertain fellow passenger?

Remove the bad: HMW separate the kids from fellow passengers?

Explore the opposite: HMW make the wait the most exciting part of the trip?

Question an assumption: HMW entirely remove the wait time at the airport?

Go after adjectives: HMW we make the rush refreshing instead of harrying?

ID unexpected resources: HMW leverage free time of fellow passengers to share the load?

Create an analogy from need or context: HMW make the airport like a spa? Like a playground?

Play against the challenge: HMW make the airport a place that kids want to go?

Change a status quo: HMW make playful, loud kids less annoying?

Break POV into pieces: HMW entertain kids? HMW slow a mom down? HMW mollify delayed passengers?

Techniques for Generating ideas

BRAINSTORMING

Brainstorming aims to leverage the collective thinking of the group, by engaging with each other, listening, and building on other ideas. Conducting a brainstorm creates a distinct segment of time when you intentionally **turn up the generative part of your brain** and **turn down the evaluative part**. Brainstorming can be used throughout the design process: to plan empathy work, to assess products and services, and to come up with design solutions.

Implementation tips:



- **Timing**: 15-20 min
- **Environment**: comfortable, with lots of vertical space for writing or sticking post-it notes
- **Process**: write down any idea, without judging.
- **Facilitation**: establish rules; if the process slows down, make some adjustments, e.g. add constraints that might spark ideas (e.g. “How would you design it with the technology of 50 years ago”)





One Conversation at a Time

Go for Quantity

Headline!

Build on the Ideas of Others

Encourage wild ideas

Be Visual

Stay on Topic

Defer Judgement -
NO Blocking

Techniques for Generating ideas

BODYSTORMING

Bodystorming integrates empathy work, ideation, and prototyping by physically experiencing situations to spark new ideas. This method involves setting up immersive experiences and testing them physically, even altering your environment during idea generation.



Implementation tips:

- **Get Physical!**
- Immerse yourself in their experience

E.g. Designing for the elderly? Simulate their perspective by smearing Vaseline on your glasses. Move around and immerse yourself in relevant physical environments to generate new ideas.



Techniques for Selecting ideas

BRAINSTORM SLECTION

Idea selection is a way forward to prototyping, i.e. choosing the most promising idea(s) that will be taken to the next stage in the design process.

Selection methods:

Post-it voting – Each team member gets three votes. The post-its with the most marks get selected.

Four categories – Elect one or two ideas within each category: the rational choice, the most likely to delight, the darling, and the long shot.

Bingo – Pick one or two ideas that inspire a physical prototype, a digital prototype, and an experience prototype.



Move to prototyping – If an idea seems pointless to test, ask what attracted you to it, then test that aspect or integrate it into a new solution.

Techniques for Prototyping & Testing

PROTOTYPE TO TEST

Prototyping involves iterative creation of rough models of the design solution, in order to examine various aspects of the design. User testing is central to this process, as it provides valuable insights from firsthand experiences and reactions.



Implementation tips:

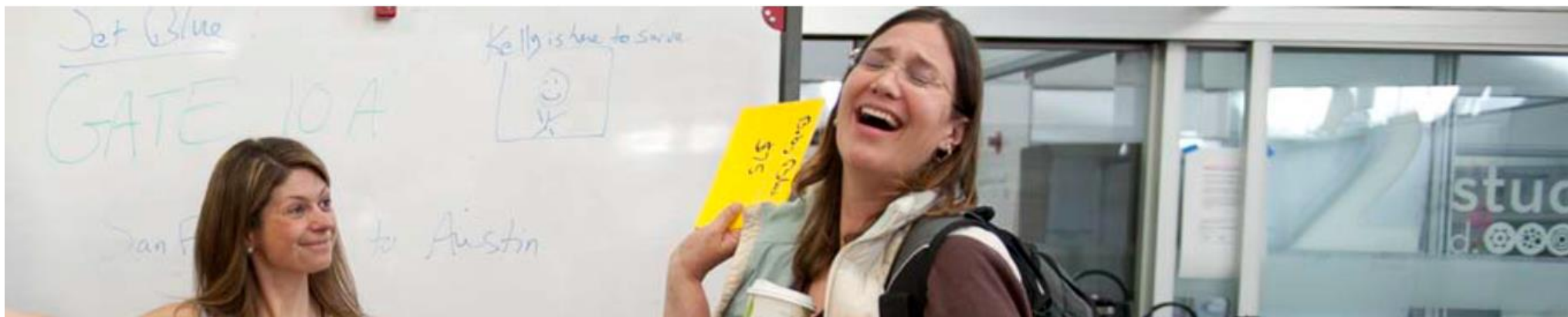
- Identify the variable you are testing (i.e. a specific feature of the solution).
- Create separate prototypes for different variables.
- Build a prototype with whatever materials are available (paper, tape, or found objects).
- Don't be too attached to a single prototype, move on to new iterations promptly.



Prototype to Test: implementation tips (cont.)



- Consider the key insights you aim to gain from your prototypes.
- Keep the user in mind and anticipate user behaviour to guide your design.
- Elicit user reactions on the rough model through experiences.
- Focus on refining aspects crucial to your testing objectives.
- Consider the testing context to ensure meaningful feedback.



Techniques for Prototyping & Testing

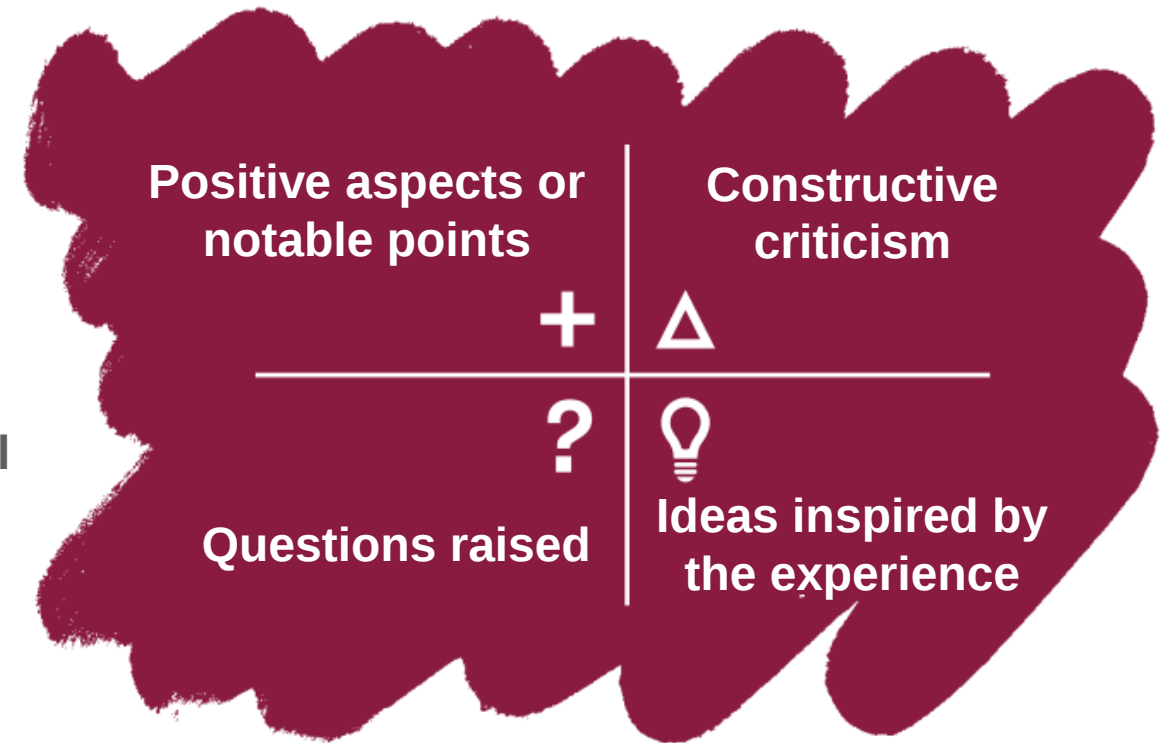
FEEDBACK CAPTURE GRID

A feedback grid is used to efficiently capture feedback of users on the prototype.



Implementation tips:

- Divide a page or whiteboard into 4 quadrants.
- Label the quadrants as in this picture and fill each quadrant with relevant feedback.
- Aim to provide input in each quadrant, particularly focusing on "likes" and "wishes" in the upper two quadrants.



Unit 2.4 Case study

Energy Solutions for the New Generation: Design Thinking at Innogy



1. What do you think were the success factors of Innogy's eCarSharing?

2. What do you think were the potential bottlenecks in this project?



Design thinking workshops at Innogy

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