

Design Thinking for SDGs

Session 1, 2 Define

Wednesday August 18, 2021

Prof Semee Yoon
Prof Hyunkyung Lee



Today's agenda

- 1) DT Step 1: Empathize
 - Empathize with your P, issues in Sustainable Development
 - Activity: Empathize recap
- 2) DT Step 2: Define your problem
 - Activity: Problem Statement





Planeteteers

Yuri Shin



#Positivity

#Passion

Salma Elbehary



Enthusiastic

Sustainability seeker

Juwan Son



#Idealist

#Rational

Jungwon Youn



Good listener

Fun

Hatyja Nuriyeva



#simplifier

#climateactivist

Ecovision

Group Leader



Yunjoo Cho

#1 Experience_is_the_best
#2 Sympathetic

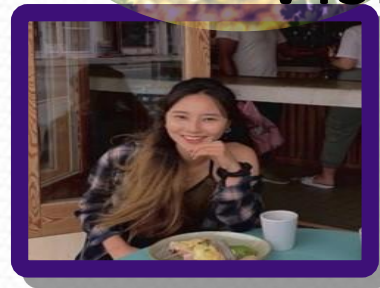


Alex Lew

#1 slow and steady
#2 Experience over materialism



Ecological +
Visionary



Eunhee Shin

#1 Open-minded
#2 Friendly



Yewon Lee

#1 Hard Worker
#2 Athe-holic

Group 2 – EConowledge





JINHA

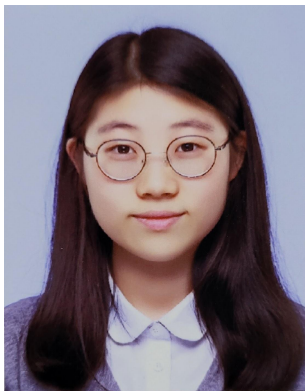
#career-oriented
#challenging



JINKYU

#favorable
#relaxed

**SMOOTH LIKE
BUTTER**



YEONWOO

#dreamer
#observant



YIJEONG

#fiftypercent
#optimistic



CARINE

#organised
#driven

GROUP 8 – “GREENWICH”



NAYEON KANG (SARAH)

- ❖ Seoul National University Graduate School of Environmental Studies – Environmental Management
- ❖ Keywords: All-rounder, Environment-conscious
- ❖ Korean (Native), English (Fluent)
- ❖ “Food is the best vaccine against chaos” (SDG 2)
~ David Beasley, Head of UN WFP



DONGEUN SHIN

- ❖ University of Utah – Urban Ecology
- ❖ Keywords: Caring, Quirky
- ❖ Korean (Native), English (Fluent), Chinese (Intermediate)
- ❖ “There is no ‘Plan B’ because we do not have a ‘Planet B’. We have to work and galvanize our action”
~ Ban Ki Moon (UN Secretary-General 2007-2016)



APOORVA JAYAKUMAR

- ❖ Yonsei University Graduate School of International Studies – Global Economy and Strategy
- ❖ Keywords: Curious, Compassionate
- ❖ Tamil (Native), English (Fluent), Hindi (Fluent), Korean (Intermediate)
- ❖ “Until justice rolls down like water and righteousness like a mighty stream”
~ Martin Luther King Jr.



EUNCHONG KIM (SAMUEL)

- ❖ Sungkyunkwan University – Department of Chinese Language and Literature
- ❖ Keywords: Slow, Steady
- ❖ Korean (Native), English (Fluent), Chinese (Beginner)
- ❖ “The Earth is a beautiful planet”
~ Scott Kelly (Retired Astronaut)



EJIN KIM

- ❖ George Mason University – Global Affairs
- ❖ Keywords: Passionate, Positive
- ❖ Korean (Native), English (Fluent), Chinese (Beginner)
- ❖ “Making peace with nature is the defining task of the 21st century”
~ Antonio Guterres, UN Secretary-General



Group 7

Hyeonjeong Kim



Enthusiastic & Dreamer

Yunji Kim



Easy-going & Generous

Ayoun Koh



Determined & Insightful

Ian Hwang



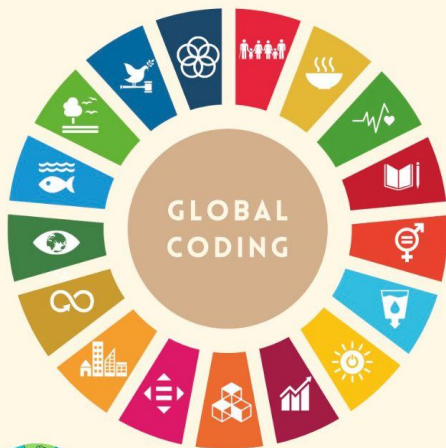
Principled & Clear-sighted

Akira Setaruchi



Open-minded & Considerate

UNOSD 5th SDGs Youth Summer Camp



Daeun Kim (Grace)
Global Health
Design



Henry Webster
Peace
Save



Suyoung Mun
Bright
Smile



Ahayeon Kim (Ellen)
Sincere
Joyful

Group 4: The Puppy Lovers



Suosopor Khuoy

1. Cheerful
2. Sensible



Chedza Bokamoso Nkhwa

1. Versatile
2. Sociable



Seoyoon Cho

1. ENFP
2. Animal Lover



Jiseun Shin

1. Energetic
2. Optimistic



Jaehyun Lee

1. Driven
2. Outgoing

Today's agenda

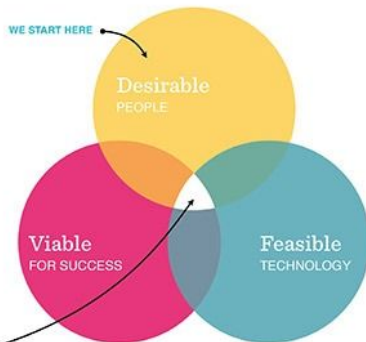
- 1) DT Step 1: Empathize
 - Empathize with your P, issues in Sustainable Development
 - Activity: Empathize recap
- 2) DT Step 2: Define your problem
 - Activity: Problem Statement



Empathize → Define

What is Human Centered Design

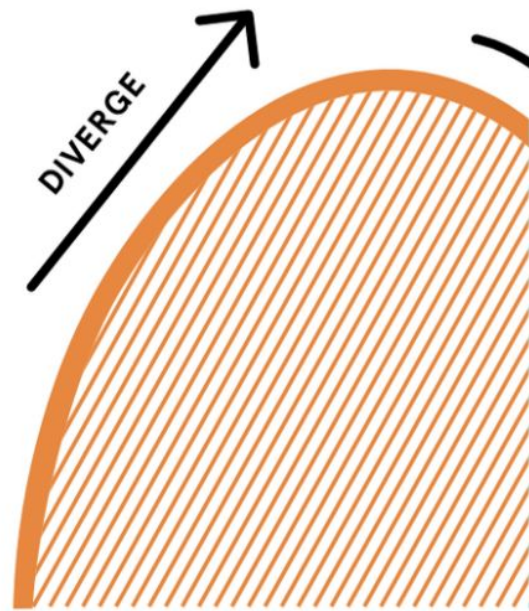
- the needs of people
- the possibilities of technology
- the requirements for success

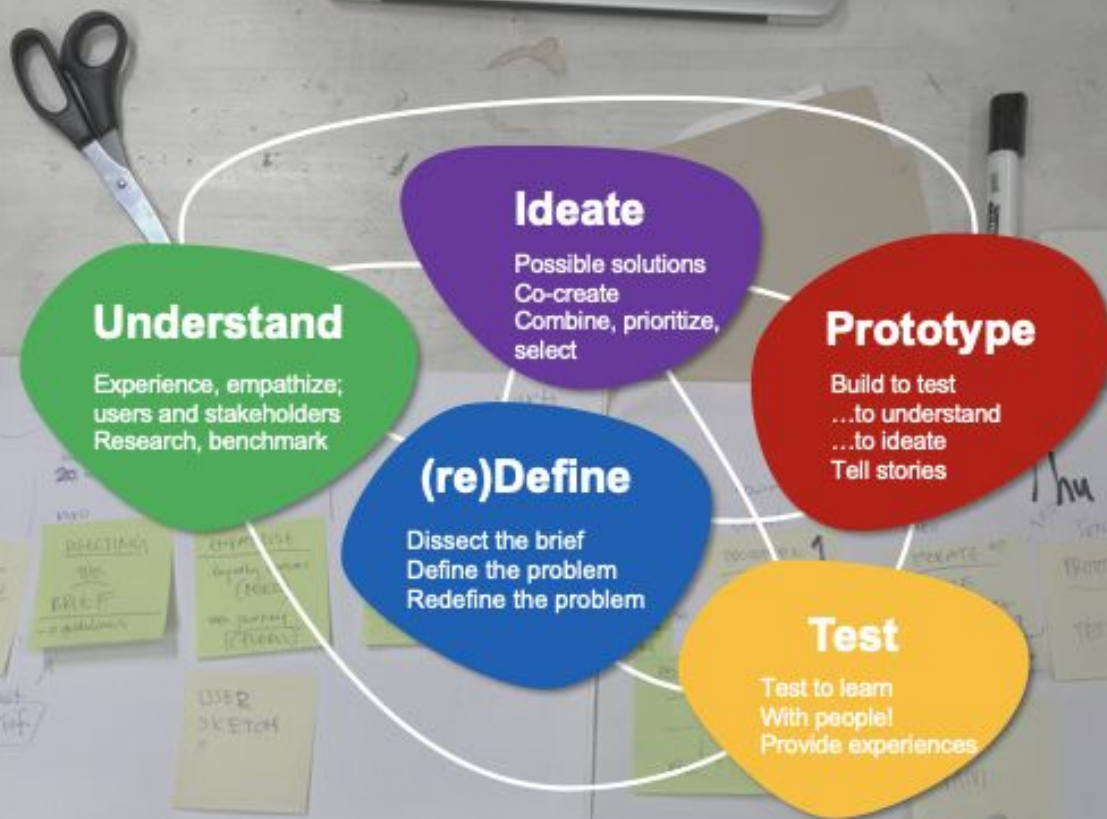


Empathize!

INSPIRATION

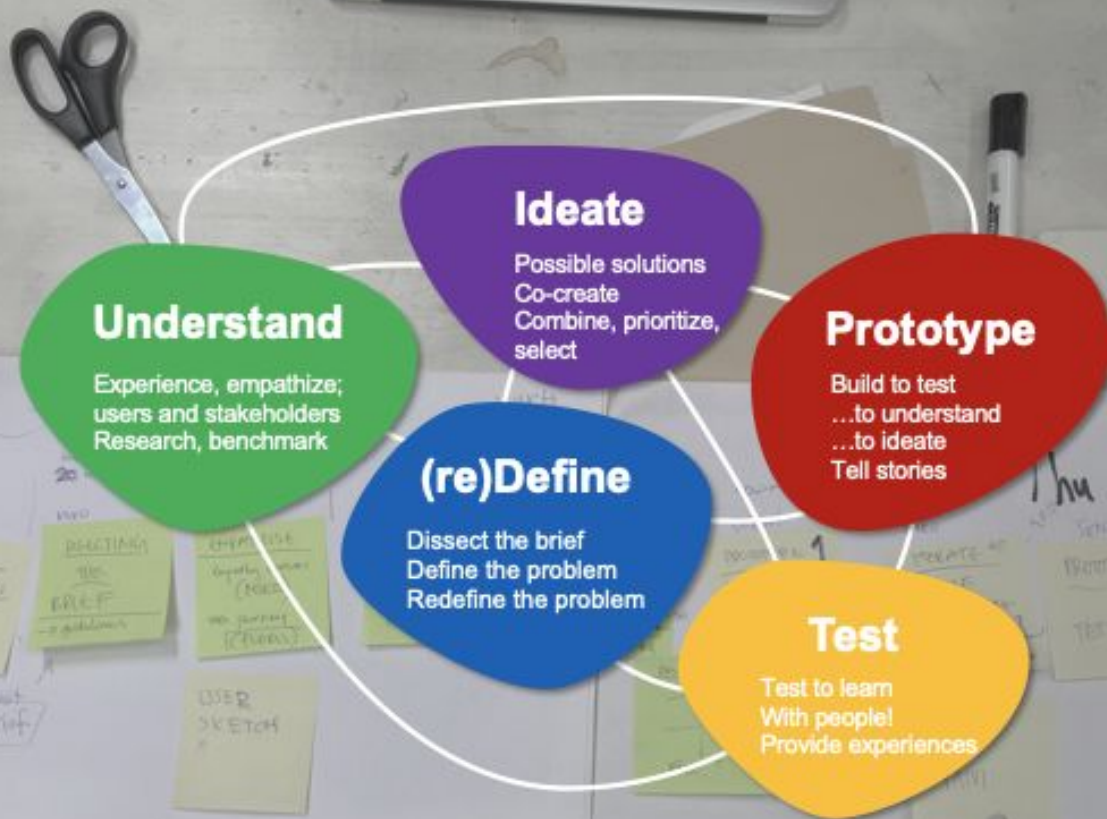
I have a design challenge.
How do I get started?
How do I conduct an interview?
How do I stay human-centered?

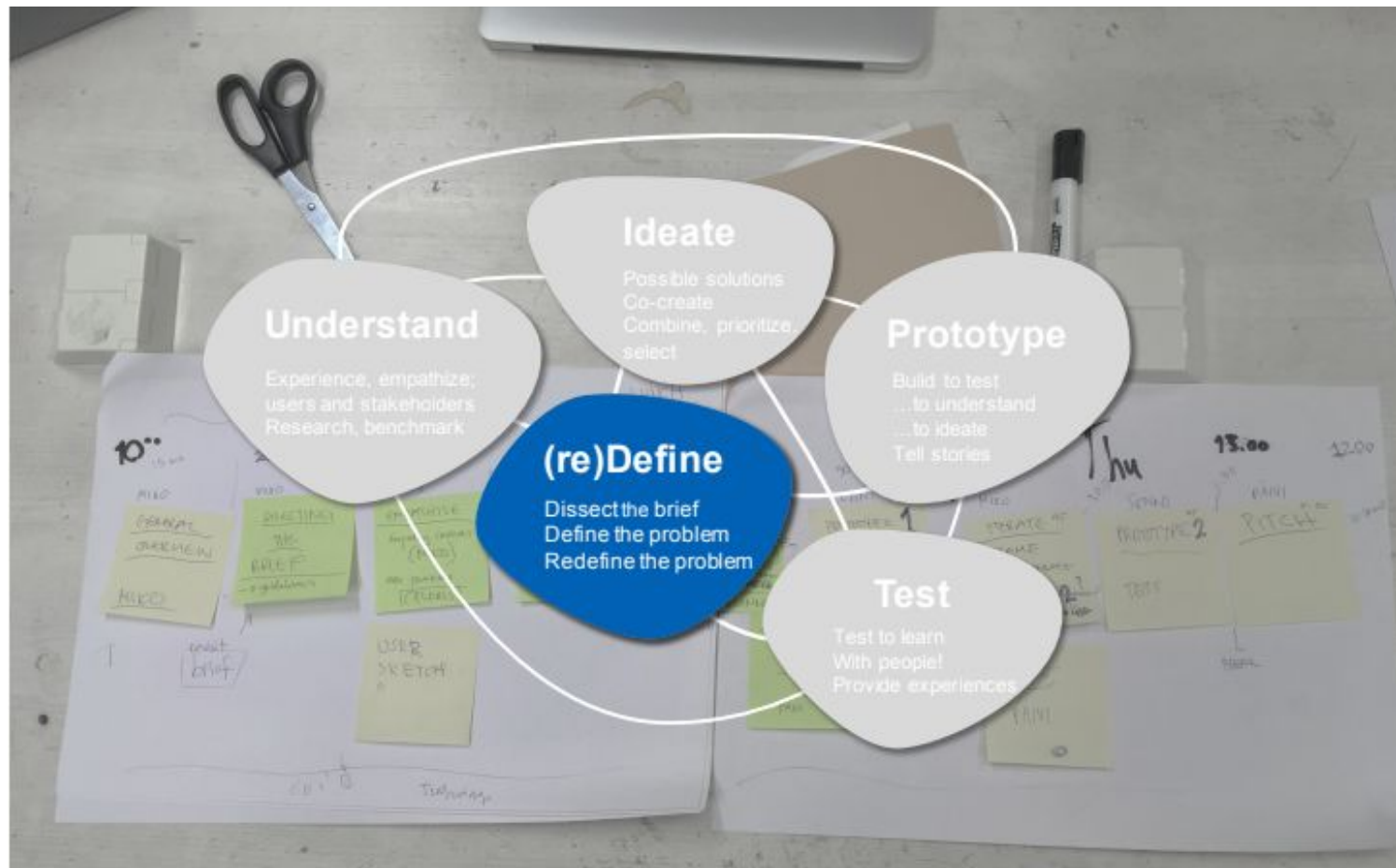






Understand
=
Empathize





From DT Step 1 Empathizing with Users

Interpretation transforms your stories into meaningful insights.

Observations, field visits, or just a simple conversation can be great inspiration—but finding meaning in that and **turning it into actionable opportunities for design** is not an easy task.

It involves storytelling, as well as sorting and condensing thoughts until you've found a **compelling point of view and clear direction for ideation**.

Search for Meaning to Define the Problem

Empathize

Find Themes

Make sense of findings

Define Insights

Define

What is the actual problem
we are trying to solve?

Who is really affected by it?

What are the different ways
of solving the problem?

Simple technique to identify underlying causes and motivations to get to the bottom of a problem.

1. **"Why did the robot stop?"**
The circuit has overloaded, causing a fuse to blow.
2. **"Why is the circuit overloaded?"**
There was insufficient lubrication on the bearings, so they locked up.
3. **"Why was there insufficient lubrication on the bearings?"**
The oil pump on the robot is not circulating sufficient oil.
4. **"Why is the pump not circulating sufficient oil?"**
The pump intake is clogged with metal shavings.
5. **"Why is the intake clogged with metal shavings?"**
Because there is no filter on the pump.

Make Insights Actionable

Task 2: Develop Your Problem Statement

DT Step 2: Define

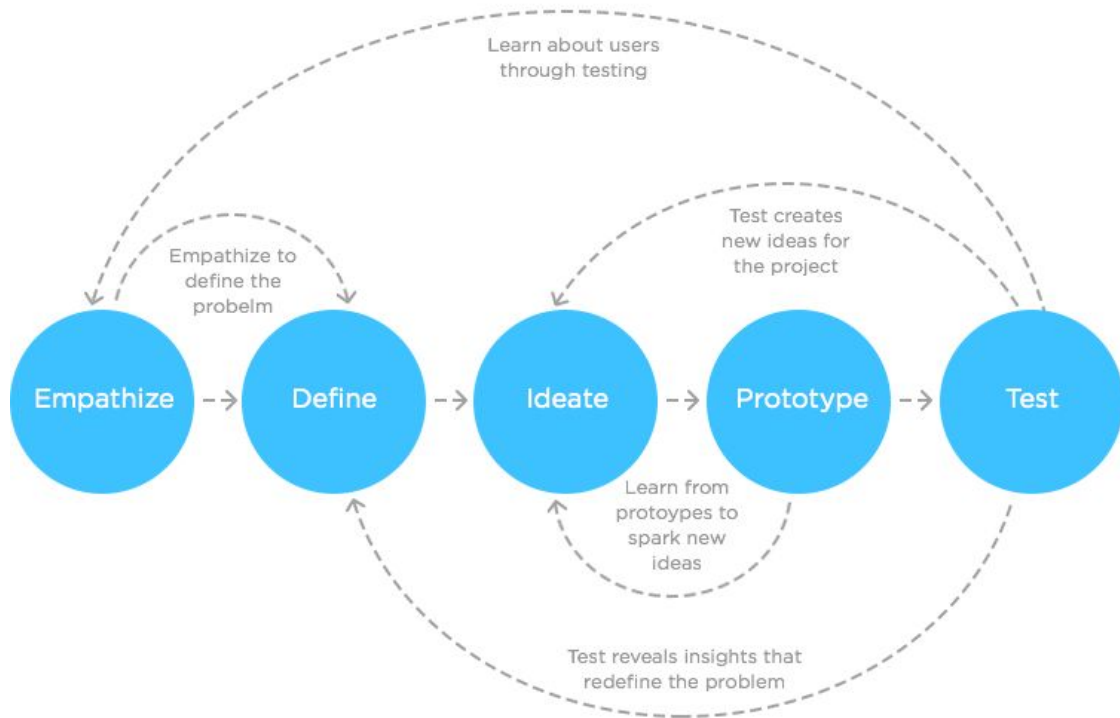
Reframe and define the problem in *human-centered ways*

To find a solution that is:

- Technically feasible
- Economically viable
- Desirable for the user

DESIGN THINKING:

A non-linear process



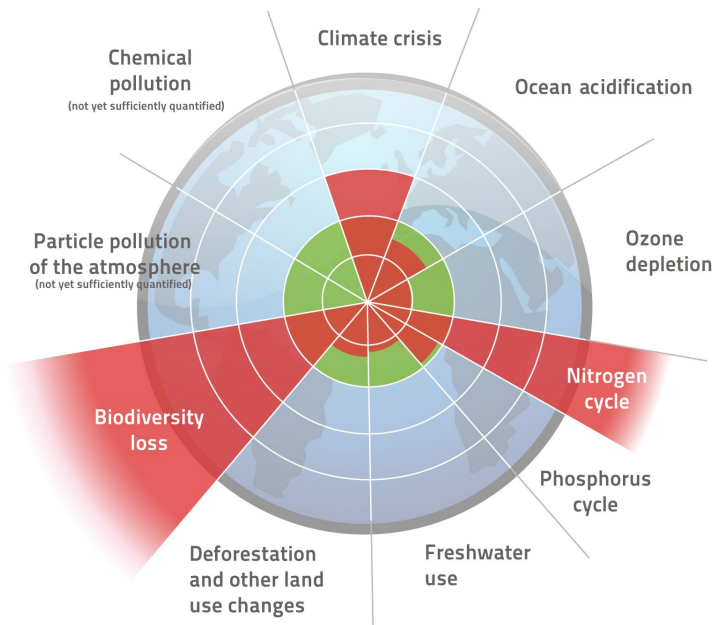
Define: Problem Statement

- **Human-centered:**
 - About the people that the team is trying to help
- **Broad enough for creative freedom:**
 - Should not focus too narrowly on a specific method or list technical requirements
- **Narrow enough for management:**
 - sufficient constraints so that not too daunting
counter-ex) “improve the human condition”

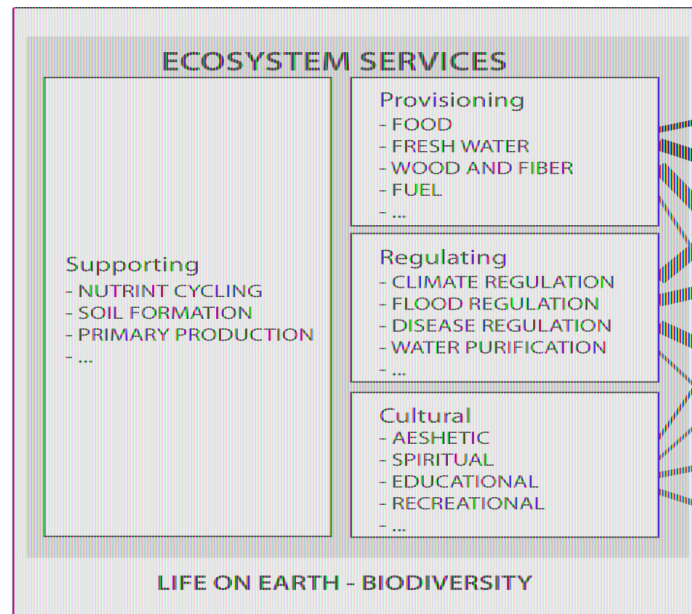
Environment → PPL: Resource + Service

Planetary Boundaries

after Johan Rockström, Stockholm Resilience Centre et al. 2009



- Safe planetary boundary / guide rail according to the authors
- Scientific observation until 2009



Arrow's color
potential for mediation by socioeconomic factors

- High
- Medium
- Low

Arrow's width
intensity of linkages between

- Strong
- Medium
- Weak

Define: Point of View

- Goal-oriented manner
- **3 elements**
 - Who is your user?
 - What is their deep, unmet need?
 - Why is this insightful?
 - insights gained from empathize

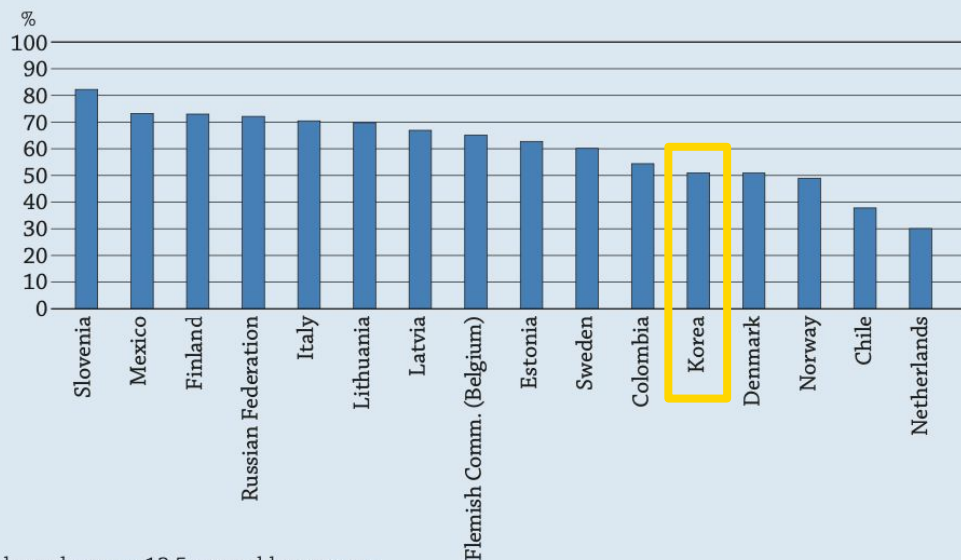
**User... (descriptive) needs _____ (verb),
because _____ (insight, compelling).**

Define: Point of View

Resources gathered
from DT Step 1:
Empathize


Figure A6.a. Percentage of schools where all or most of the eighth-grade students take part in internal or external school activities related to environmental sustainability (2016)

International Civics and Citizenship Education Study



Note: Eighth-grade students are 13.5 years old on average.

Source: International Civics and Citizenship Education Study (2016). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

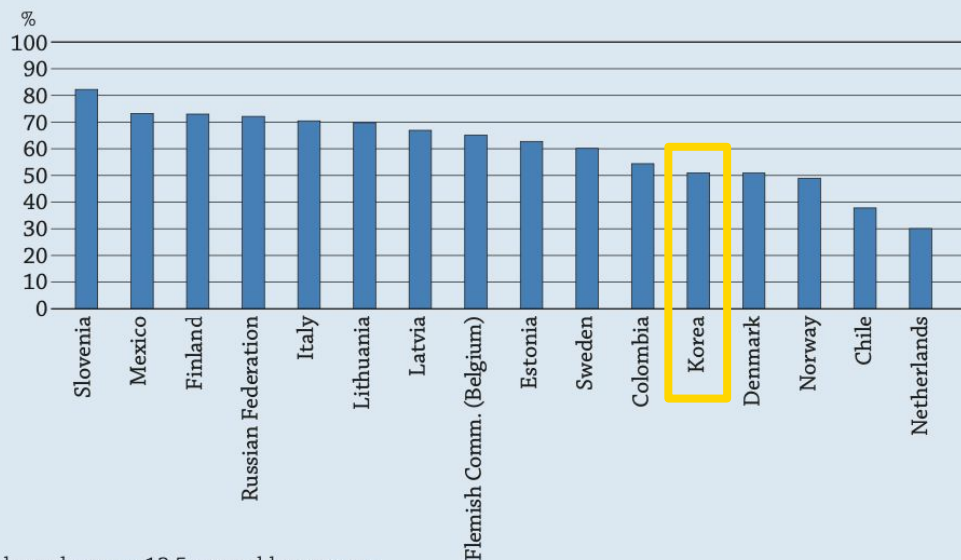
StatLink  <https://doi.org/10.1787/888933802760>

Define: Point of View

Korean youth needs to experience activities related to environmental sustainability, b/c schools are unable to do so + lack of awareness will led to inaction on environmental issues.


Figure A6.a. Percentage of schools where all or most of the eighth-grade students take part in internal or external school activities related to environmental sustainability (2016)

International Civics and Citizenship Education Study



Note: Eighth-grade students are 13.5 years old on average.

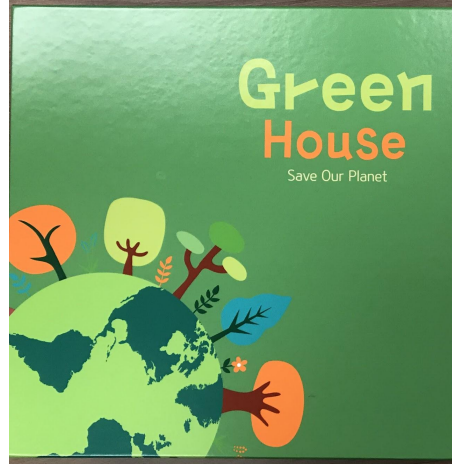
Source: International Civics and Citizenship Education Study (2016). See *Source* section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

StatLink  <https://doi.org/10.1787/888933802760>

Define: Point of View

Korean youth needs
to gain experiential learning
activities related to climate
change, because

1) the current curriculum does not
incorporate risks and
opportunities of climate change &
2) hands-on experience has been
found to influence behavior and
action.



Task: 5+α why's + Problem Statement

- Today: write down 5 why's on Miro.
- **For the afternoon: pick one problem statement after discussion.**
 - Trust your gut feeling: choose those questions that feel exciting and help you think of ideas right away.
 - Select the questions that are most important to address, even if they feel difficult to solve for.

1 post-it for 1 question
As many as possible

**During the first pitch today,
each team will briefly pitch their POV
problem statement, after ideation**

POV checklist

Your POV should:

- Provide focus and frame the problem
- Inspire your team
- Provide a reference for evaluating competing ideas
- Empower team members to make decisions in response to the high level goals of the team
- Fuel brainstorming by suggesting “how might we” statements
- Capture the hearts and minds of people you meet
- Save you from the impossible task of developing solution concepts that are all things to all people
- Allow you to revisit and reformulate the POV as you learn by doing
- Guide your innovation efforts

Appendix

Due beginning of the 1st session on WEDNESDAY

Slide one: sentence problem statement

Slide two or more : Background research on your users (empathy step)

User	+	Need	+	Insight
An overworked husband		to feel good about recycling		When things pile up he feels behind. And ultimately the big pile on the curb feels more like generating waste than doing good.

HMW reduce the size of the recycling pile?

HMW make the husband feel good about a big pile?

HMW reduce the amount of work involved in gathering all the house piles?

HMW eliminate the overflowing recycling bins?

HMW make the husband feel ahead of the game?

HMW make the husband feel less overworked?

HMW make recycling feel less like waste?