

Introduction to the Sibel Center for Design Human-Centered Design Taxonomy

What is Human-Centered Design?

Human-Centered Design (HCD) is a problem solving approach that identifies the unmet needs of a population in order to collaboratively and iteratively develop solutions (Brown, 2008)

The Human-Centered Design Taxonomy: Spaces and Processes

Lawrence, L., Shehab, S., Tissenbaum, M., Rui, T., & Hixon, T. (2021)

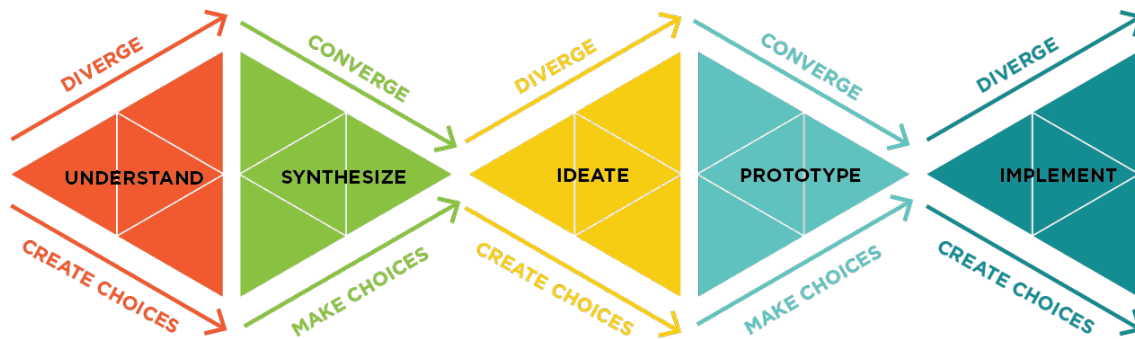


Figure 1: The Human-Centered Design Spaces

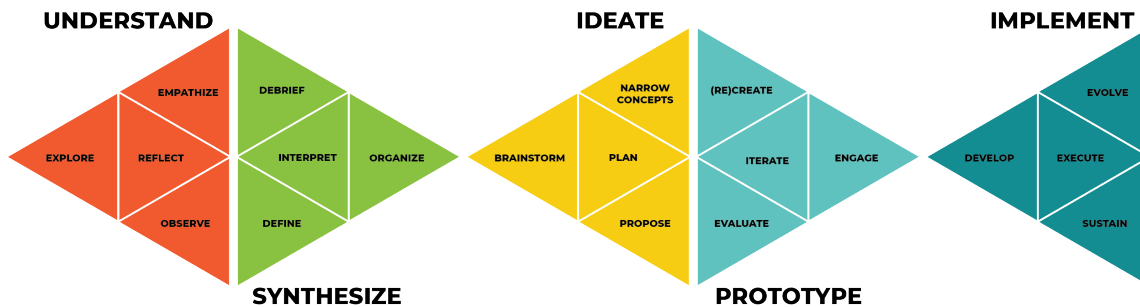


Figure 2: The Human-Centered Design Processes

The Human-Centered Design Practices Per Process

Lawrence, L., Shehab, S., Tissenbaum, M., Rui, T., & Hixon, T. (2021)

Lawrence, L., Shehab, S., Tissenbaum, M. (Under Review)

Understand

Processes	Definition	Practices
<i>Explore</i>	Exploring a new idea by defining what the problem is, researching it, hypothesizing how it works, or discussing biases you may have about it	Establish a common problem space Review current landscape or context Document biases and predictions
<i>Observe</i>	Planning to collect, collecting, or sharing already collected observations of a space or immersion with environments	Conduct observations Immerse oneself within an environment
<i>Empathize</i>	Planning to collect, collecting, or sharing already collected information of experiences from users, including interviews, user resources, and information from extreme users	Conduct interviews Locate resources Identify extreme users
<i>Reflect</i>	Reflecting on the goals, context, or plan to explore the project	Revisit project context Modify research plan as needed

Synthesize

Processes	Definition	Practices
<i>Debrief</i>	Sharing raw information collected from the understand space to stakeholders or team members	Filter content for relevance Prioritize information
<i>Organize</i>	Developing themes from data collected during the Understand space or ideas shared within the group, drawing comparisons across ideas, or developing insights about the project that draw multiple ideas together	Collapse content Find themes Develop insights

<i>Define</i>	Identify design opportunities through creating "how might we" (HMW) questions, or discussing possible threads for the project to focus the scope of the project.	Identify design opportunities Develop HMW questions Define the project scope
<i>Interpret</i>	Using themes, collected data, and/or opportunity areas to discuss how to move the project forward or what the next steps are	Identify further research opportunities Building questions to inspire ideation

Ideate

Process	Definition	Practices
<i>Brainstorm</i>	Planning how to structure ideation session and proposing ideas or solutions to the problem, and developing themes of proposed ideas from the brainstorming session	Ideation of potential solutions Collapse ideas Defer judgement Chunk & find themes
<i>Propose</i>	Communicate the proposed idea(s) to users or stakeholders to collect and integrate feedback	Communicate suggested ideas Iterate in response to new information Come up with alternative ideas
<i>Narrow Concepts</i>	Identifying which concepts are the most viable to move forward	Revisit users and stakeholders needs Examine available resources Make decisions on the most viable concepts
<i>Plan</i>	Using developed concepts, discuss how to move the project forward or what the next steps are	Develop a plan of action

Prototype

Process	Definition	Practices
<i>(Re)Create</i>	Construct prototypes of their proposed physical, digital, or experiential concept through preliminary model (e.g., physical model, sketch, etc.)	Create prototypes of the proposed physical, digital, or experiential concept
<i>Engage</i>	Communicate the created prototype to users, stakeholders and/or teammates	Engage users, stakeholders and/or teammates in the created prototype

	Get feedback from stakeholders, teammates, or outsiders	
<i>Evaluate</i>	Diagnose problems and describe behaviors Reflect on feedback to propose iteration	Evaluate the engagement process with users, stakeholders and/or teammates
<i>Iterate</i>	Explore multiple variations of your concept	Use feedback from users, teammates or stakeholders to revise prototypes to build more effective or usable design

Implement

Process	Definition	Practices
<i>Develop</i>	Develop a plan for execution to make the idea or concept a reality; communicate the solution to stakeholders and investors	Communicate design Develop a plan for execution
<i>Evolve</i>	Plan for, collect, and implement user feedback to ensure implementation is successful	Continue to evolve and improve the solution based on user feedback
<i>Sustain</i>	Ensure the implementation is sustainable in the context by monitoring and evaluating social and environmental contexts	Plan for sustainability (e.g., environmental, societal, business) Monitoring and evaluation
<i>Execute</i>	Execute functional version of the implementation to users	Creating functional iteration of the design concept

The Human-Centered Design Mindsets

Goldman et al., 2012; Razzouk & Shute, 2012; Royalty et al., 2019

Human-Centeredness	Is characterized by a central focus on empathy for others and putting oneself in others' shoes.
Experimental	Is characterized by a realization that everything may be considered a prototype that can be tested, evaluated, and modified accordingly.
Collaborative	Is characterized by a belief that collaboration is a key component of problem-solving.
Metacognitive	Is characterized by an awareness that is essential to be aware of where one is in the design thinking process in order to agilely respond to changing parameters of the problem.
Communicative	Is characterized by an ability to exchange ideas and thoughts through conversations and presentations.
Creative	Is characterized by an ability to think of new and original ideas.

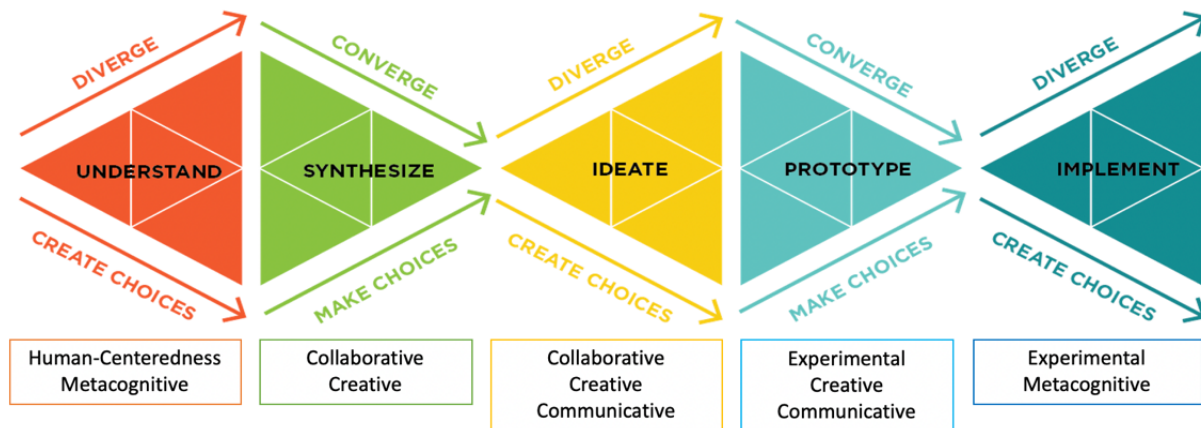


Figure 3. Featured Mindsets per Space

Reference

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