LAB OPM

Introduction to Human-Centered Design

Methods Booklet

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Welcome!

We are looking forward to your participation in the Introduction to Human-Centered Design course. This **Methods Booklet** contains the templates for activities that you will engage with in the course plus additional tools you can reference.

Human-centered design (HCD) is a creative and strategic approach to solving complex problems. HCD integrates academic disciplines including anthropology, psychology, economics, as well as other practical and theoretical design disciplines. With HCD, we approach problems in ways that are qualitative, participatory, and iterative.

HCD methods allow us to rapidly generate and test new ideas while prioritizing people's needs, behaviors, and ways of thinking. They enable us to improve products, services, and systems from the perspectives of the people who use them.

As designers, we have no hidden agenda. We simply want to help our partners solve their problems and improve the way things work. Design methods help us better understand what is going on in the world. The human-centered design approach can provide a sense of why people are struggling with a specific challenge or process and offer insights about how to innovate or intervene to bring about positive change.

Course Objectives

- Understand applied value of HCD
- Practice some methods
- Build on collaboration skills

The Value of HCD

HCD is a creative and strategic approach to solving challenging problems. The method puts people at the center of the process.

HCD considers people's experiences, behaviors, ways of thinking, and needs and aspirations. HCD integrates academic disciplines including anthropology, psychology, economics, and other practical and theoretical design disciplines.

It is a qualitative, participatory and iterative approach. This technique for creative problem solving rapidly generates new ideas and innovative approaches to better understand and address people's real needs.

HCD involves phases of sequential work: framing, discovery, synthesis, design and prototyping, and testing Once a design solution is launched, we measure its effectiveness against initial aims, and then we continually tweak it, thus improving the solution over time. HCD recognizes that people and their needs are dynamic and changing, and so our solutions must be dynamic and changing.

Discovery

Researching to uncover real human needs

Laying Out Your Assumptions

Document what you already know about this problem and identify areas for exploration.

You come to this challenge problem with experience and knowledge. Recognizing that will help us know what perspectives we need to add.

What do you know?

List what you already know about your problem frame.

This could be observations related to:

- the context
- the people or elements involved
- what works well
- what works less well

What do you NOT know?

List what you don't know about your problem frame.

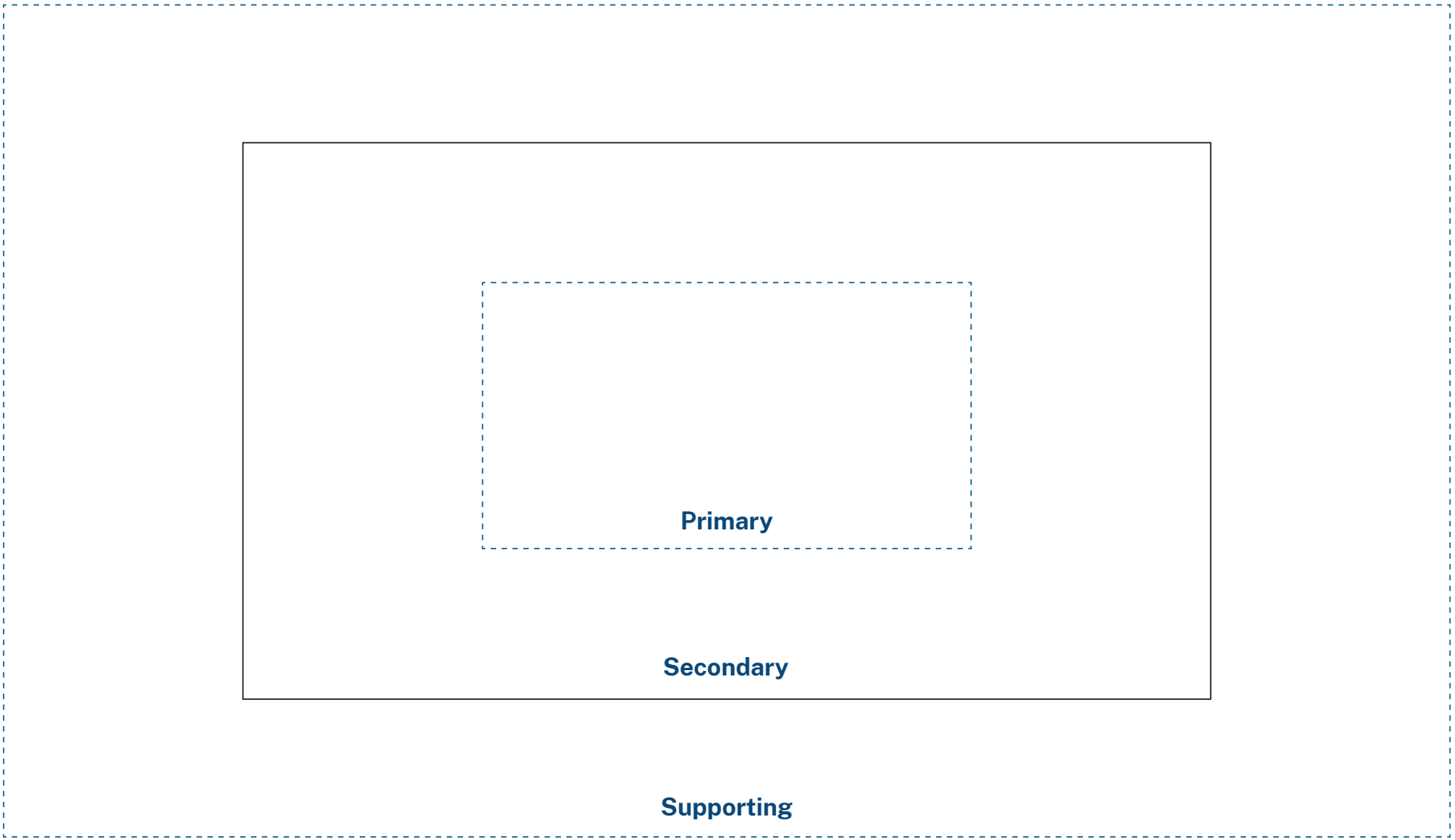
This could be questions or assumptions about:

- the context
- the people or elements involved
- what works well
- what works less well

Stakeholder Mapping

Who are the basic actors of your work? Who is at the center of what you do?

Mapping to align
The main benefit of a stakeholder map is to get a visual representation of all the people affected and who affect your work and how they are connected.



Laying Out the Process

Document what you already know about this problem and identify areas for exploration.

You come to this challenge problem with experience and knowledge. Recognizing that will help us know what perspectives we need to add.

1. What is the process?

List the basic steps that occur at the center of this problem.

Place the steps as they are experienced over time.

2. Who are the stakeholders?

List the various stakeholders affected by or involved with this process.

Place the stakeholders at the points of the process where they interact.

3. What are the high/low lights?

Use different color dots to mark moments in the process:

- **highlights** that work well.
- **lowlights** that don't work well/could work better
- **questions** where you need more information

Deciding who to engage in research

Develop a list of a few people you plan to interview that captures a diverse range of perspectives.

Go for diversity!
Try to think of who might offer a different perspective from your own or the other interviewees.

Who will you engage with?	Why do you want to include them? What perspective will they provide?	What do you want to learn from them?	What specific questions will you ask?

What other research

Deciding What to Ask

Develop an outline for your interview questions using the framework below that allows the interview participant to tell their story.

Go with the flow
Put some thought into the structure and strategy of your discovery research but try to stay open to wherever it leads!

Introduction

How are you going to introduce yourself and the project? What are going to be your warm-up questions?

Body

In this part of the interview, ask questions that help get you as close as possible to the perspective of the person you're interviewing.

Wrap-up

Thank participants for their time and wrap-up with open-ended questions like: "Is there something else you'd like to add?"

Capturing the Interview

At this point, your data is raw — that is, it's in the form of people's stories, experiences, and anecdotes. It's time to prepare your data for synthesis.

Observe the unsaid
Note down any visual, verbal, or other clues that helps you understand your interviewee beyond their words.

Participant	Quote or Observation

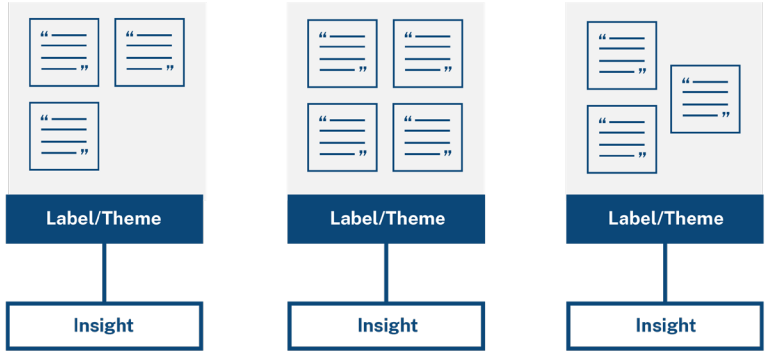
Synthesis

Forming an understanding about what you uncovered

Sorting and Sense-making

Cluster the quotes or observation data from your research based upon similarities. Then, write a label for each grouping. Next you'll distill insights from each cluster.

Find meaning
Ask what your clusters reveal about context and motivations. Read between the lines to see if what you've captured might speak to something larger.



(Re)framing

Finding the right focus for your work

Posing Problems: The Four Ws

Articulate the 4Ws of your problem, noting what evidence from your design research you have to support these elements.

Break it down
Before crafting a problem statement, you can use the 4Ws to break down the pieces of a complex challenge.

What
What is the gap, issue, or potential area to explore?

Who
Who is directly or indirectly affected by this problem?

Where
Where is the problem occurring or being experienced?

When
When is the problem happening or being experienced?

Drafting a Problem Statement

Sum up your problem in a single sentence.
Try to capture the underlying need by addressing the 4 W's:
who, what, when, and where.

Edit like a designer
Crafting the right problem frame leads to solving the right problem for the right people. Editing is an iterative process. Get your inital problem statement on paper and then edit liberally.

Problem (Re)frameworks, part 1

Reframing your problem allows you to stress test your problem statement and uncover opportunities you had not yet considered.

It's all about reframing! Trying out some of the (re)frameworks below can expand and shift your problem frame for greater impact.

Work Backward or Go Negative

Backward: Imagine the problem was solved. What would success look like?

Negative: Imagine the problem goes unsolved. What's the worst-case outcome?

Rewrite your problem statement based on these scenarios.

Ask the 5 Whys (and Hows)

Read your Problem Statement.
Ask, 'Why does this problem exist?'
Do this 5 times to get to root causes.

Alternatively, ask 'How?'
Do this 5 times to see more specific problems and needs.

Rewrite your problem statement to address the root causes and needs that you have revealed.

Apply Scalar Thinking

Look at your problem and think about at what scale it is defined. Consider how the problem is experienced at the individual, interpersonal, community, institutional, system-wide, regional, national, and global scales.

Rewrite your problem statement so it addresses another scale.

Problem (Re)frameworks, part 2

Reframing your problem allows you to stress test your problem statement and uncover opportunities you had not yet considered.

It's all about reframing! Trying out some of the (re)frameworks below can expand and shift your problem frame for greater impact.

Confront Unassuming Assumptions

Ask, 'What do we really know for sure about this problem?' 'What can't we affect?' Assess how true your answers to these questions really seem and remove any assumptions constraining your framing.

Rewrite your problem statement to be unconstrained by assumptions.

Conduct a Character Study

Imagine how a particular person with more distinct or extreme needs experiences the problem. How would you approach the problem from their point of view? Could solving for their needs allow you to provide better experience for a broader group?

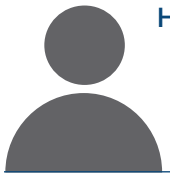
Rewrite your problem statement incorporating this new point of view.

Stakeholder Personas

Who are the main characters experiencing the problems or challenges you're focused on? How can you best personify and prioritize their needs?

Keep it real.
Make sure that your personas are based on observed needs and characteristics, not generalizations or assumptions.

Name



How are they related to the issue?

Needs

Wishes

Constraints

Name

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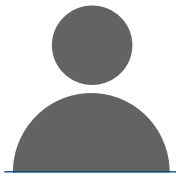


How are they related to the issue?

Needs

Wishes

Constraints

The Problem Frame Mad Lib

Insights and problem statements serve as prompts for ideation. A common problem statement phrasing begins with the question: How might we...? Fill in the blank lines below to create HMW questions that ground your problem frame in what you learned.

Given that (context)...	**Given that** (context)...	**Given that** (context)...
How might we help (person)...	**How might we help** (person)...	**How might we help** (person)...
do/be/feel/achieve (immediate goal)...	**do/be/feel/achieve** (immediate goal)...	**do/be/feel/achieve** (immediate goal)...
so that (broader goal)...	**so that** (broader goal)...	**so that** (broader goal)...

Ideation

Generating ideas for creative solutions

Ideation Matrix

There are no wrong ideas! When ideating and coming up with design ideas, the sky is the limit! There are no wrong ideas.

Select 2-3 problem statements (posed as "How might we?" questions) to address. List as many ideas as possible that could address them.

	"How might we..." Question 1	"How might we..." Question 2	"How might we..." Question 3
Products & Environments Think about: • physical and digital products, platforms, and spaces • emerging technologies new applications of current technologies			
Programs & Services Think about new or reconfigured: • digital and human services • users, providers, offerings, and forms of usage • unique value-exchanges and peer-to-peer interactions.			

Processes & Procedures

Think about new or re-configured approaches for:

- planning and decision-making
- communication, coordination, and maintenance,
- learning and change

Systems & Policies

Think about new or re-configured:

- regulations and policies and the systems they shape
- new mandates and standards
- revised or reorganized priorities and resources.

Culture & Relationships

Think about new or re-configured:

- rituals, routines and customs
- symbols
- hierarchies
- synergies in the ways people interact.

Wild Card

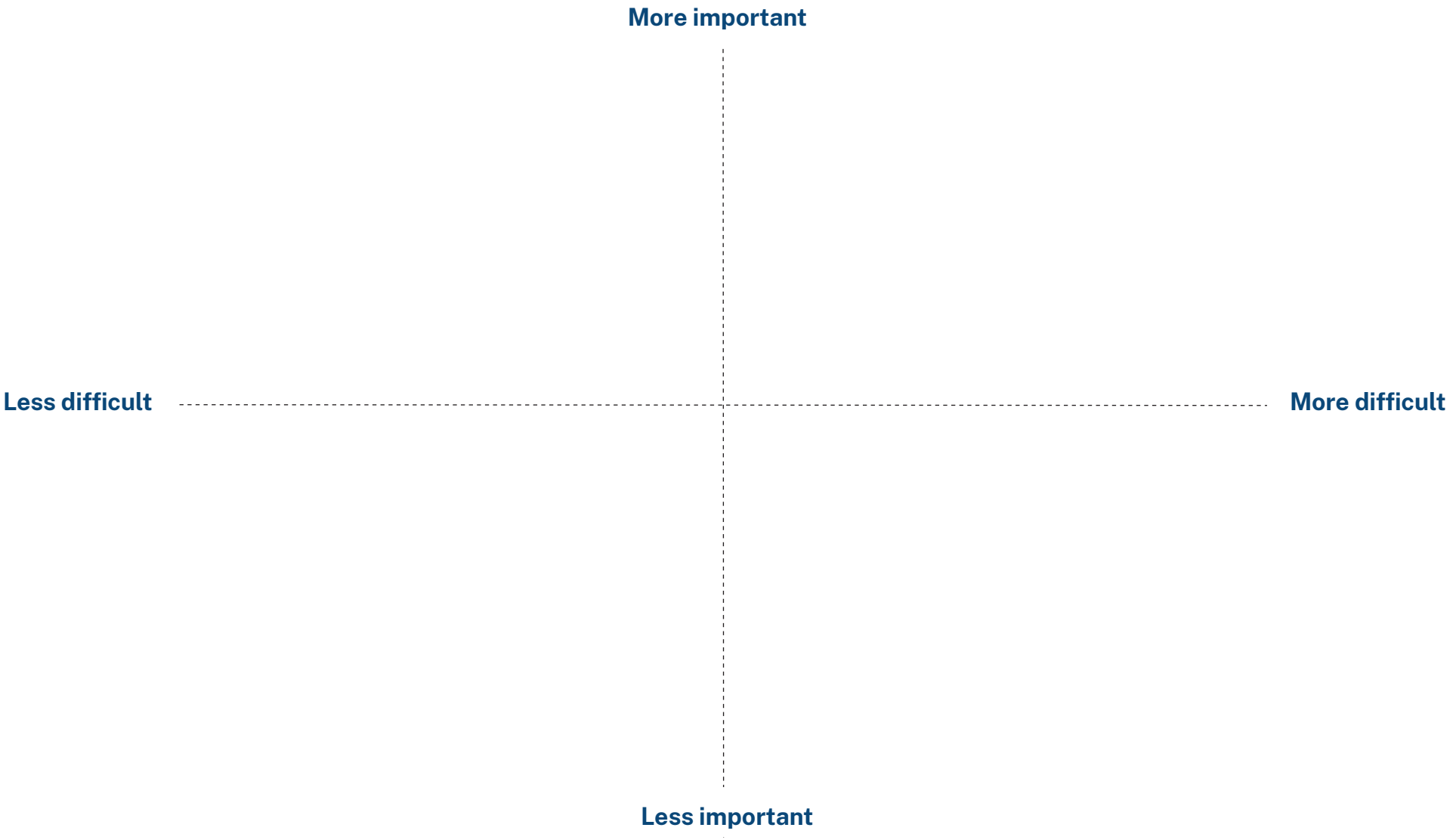
Be bold! What other ideas come to mind?

- ideas that take you out of your comfort zone
- ideas that feel impossible or break all the rules.

Priority Matrix

Organize your team's ideas across the below matrix to map out relative importance and difficulty of ideas.

Establishing criteria
You can swap out other criteria on this 2x2 that you may need to think about when prioritizing ideas. Some examples might be budget or impact.



Prototyping & Testing

Giving form and function to your concepts for testing

Planning Your Prototype

What are the most efficient and effective ways you can learn what is working and what could be working better about your design concept?

Be resourceful
Use the cheapest, easiest, and fastest means available to learn about your design. Get crafty, and keep it simple.

Hypothesis	Prototype	Evidence
What ideal outcomes will your concept produce?	What pieces of your concept could you make to test those hypotheses?	What do you want to learn by testing those pieces of the concept?

Sketching Your Prototype

What can you make to help you understand and test your concept? Consider what form your prototype would take and what materials you would use. Use this space to visually represent your prototype.

Start building!
Design has a bias towards action. The idea is to learn through the process of making, so go ahead and get started!

Testing Your Prototype

Think through the plan for how you will run your prototype test, including who will participate, how you will run the test, and what you want to learn.

Test early and often
Consider running your test with a few people, synthezing your learnings, and making updates to your prototype. Then, test again with the updated prototype.

Audience
Who will you test with?

Tasks
What will you ask them to do?

Setting
When and where will your test happen?

Supplemental Resources

Links to Further References

Supplemental Resources

General HCD

What is Human-Centered Design?
IDEO.org's two-minute video introduction to HCD/design thinking:

http://www.designkit.org/human-centered-design

What's the design thinking mindset? - Liberatory Design Cards
The Liberatory Design Cards offer an introduction to the process, mindsets, and activities that build on the tradition of Human Centered Design (aka design thinking). Focus on the first 36 cards – "Liberatory Design Process" and "Liberatory Design Mindsets". Of course, you can look at all the cards if you'd like!

https://dschool.stanford.edu/resources/liberatory-design-cards

The Design Thinking Bootleg
The Design Thinking Bootleg is a set of tools and methods created by the Stanford d.school that you can use for inspiration. It lightly covers the phases of the design process and it provides prompts for inspiration and divergent thinking!

https://dschool.stanford.edu/resources/design-thinking-bootleg

Think Government Can't Do Anything Quickly and Cheaply?
Think Again. Looking to build a "test, learn and adapt" culture, federal agencies have conducted dozens of rapid, low-cost experiments over the last few years.

https://www.govexec.com/management/2019/06/think-government-cant-do-anythingquickly-and-cheaply-think-again/157765/

Supplemental Resources

Problem Framing

Are You Solving the Right Problems?
In surveys of 106 C-suite executives representing 91 private- and public-sector companies from 17 countries, the author found that a full 85% agreed that their organizations were bad at problem diagnosis, and 87% agreed that this flaw carried significant costs. What they struggle with, it turns out, is not solving problems but figuring out what the problems are. And creative solutions nearly always come from an alternative explanation for — or a reframing of — your problem.

https://hbr.org/2017/01/are-you-solving-the-right-problems

Discovery Research

HCD Discovery Stage Field Guide
The Lab at OPM created two guidebooks about the Discovery Research process. The first, the HCD Discovery Phase Concept Guide, explains why designers do discovery research. See below the link to this first guide.

https://github.com/labopm/HCD-Guides/blob/master/01-Discovery%20Stage%20Concept%20Guide.pdf

HCD Discovery Stage Operations Guide
The second, the HCD Discovery Phase Operations Guide, explains how designers conduct this research. See below the link to this second guide.

https://github.com/labopm/HCD-Guides/blob/master/02-Discovery%20Stage%20Operations%20Guide.pdf

Supplemental Resources

Ideation

HCD Design Stage Operations Guide
The Lab at OPM has created a guidebook, The Design Phase Operations Guide, which explains how to enact the envision, prototype, and testing steps of HCD. Ideation happens at the stage of the process when you have made sense of your discovery research and identified areas for transformation. We say transformation instead of improvement because design is not simply the work of creating something new or improving something existing. Design can also be the work of enhancing and expanding something positive — or fortifying something that is critically important but tenuous — or pruning something back so as to return it to its most promising and true intention. Ideation is the moment in the project when you open your mind, think expansively, and imagine all the ways you can bring your transformation idea to life.

https://github.com/labopm/HCD-Guides/blob/master/04-HCD%20Design%20Stage%20Operations%20Guide.pdf

Prototyping

Stage Four in the Design Thinking Process: Prototype
Descriptions of some of the nuts and bolts of prototyping:

https://www.interaction-design.org/literature/article/stage-4-in-the-design-thinkingprocess-prototype

Prototyping for Social Impact
Q&A with Nathalie Collins, Senior Design Lead at IDEO.org:

https://www.plusacumen.org/journal/prototyping-social-impact

Supplemental Resources

Prototyping (continued)

Prototyping Dashboard

https://dschool.stanford.edu/resources/prototyping-dashboard

Design Thinking: Get Started with Prototyping

Prototyping is an integral part of Design Thinking and User Experience design in general because it allows us to test our ideas quickly and improve on them in an equally timely fashion. The Institute of Design at Stanford (d.school) encourages a "bias towards action, where building and testing is valued over thinking and meeting. However, why is prototyping so important in the design process? Moreover, how does it help you create Human-Centered Design solutions? Before we start making prototypes to test our assumptions, let's get a closer understanding behind the what, how and why of prototyping.

https://www.interaction-design.org/literature/article/design-thinking-get-started-with-prototyping

Paperwork Reduction Act Guidance

Official PRA memo

Official memo on PRA accommodations for user testing and other research methods:

https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/pra_flexibilities_memo_7_22_16_finall.pdf

Online PRA Guide

Also helpful is this PRA guide from digital.gov:

https://pra.digital.gov/do-i-need-clearance/

LAB OPM

The Lab is housed within the Office of Personnel Management's Human Resource Solutions (HRS) and its sub-organization, the Center for Leadership Development (CLD). In support of HRS, the Lab contributes to developing leaders, attracting and building a high-quality public sector workforce, and transforming agencies into high performing organizations.

As part of the CLD, the Lab provides education programs and leadership development, transforming today's employees into tomorrow's leaders through innovative professional development programs. We build collaborations and partnerships focused on creating cultural, intellectual, and organizational shifts for good governance.