

2

DISCOVER

THE DESIGN PROCESS

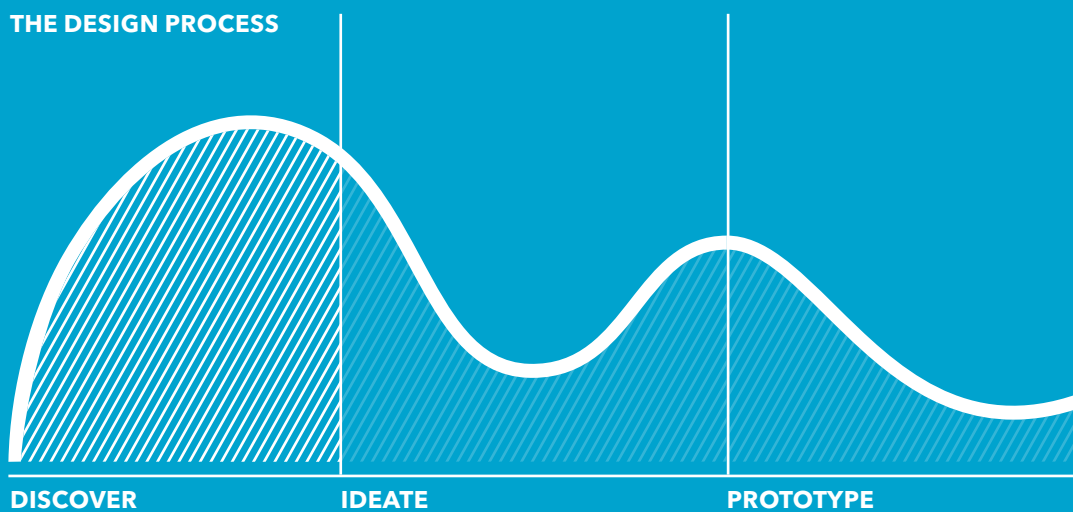


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WORKSHOP PREPARATION



For Week 2 Discover Workshop

CHOOSE

a Weekly Leader.

COORDINATE

with your team to gather supplies for the Week 2 Workshop. Here's what you'll need: notebook, pens, felt markers, Post-it Notes (or their equivalent), a camera (cellphone cameras are fine).

READ

required Week 2 Readings.

SCAN

the Human-Centered Design for Social Innovation [Google+ community](#) page. Spend a few minutes getting inspired by or getting to know other design teams around the world.

WRITE DOWN

3 interesting takeaways you would like to discuss with your team related to the Week 2 Discover readings or the Google+ community page. It could be a quick summary of what you read, connections you made regarding your prior knowledge, or inspiration from another design team.

BRING

printed Week 2 Workshop Guide.

REMEMBER

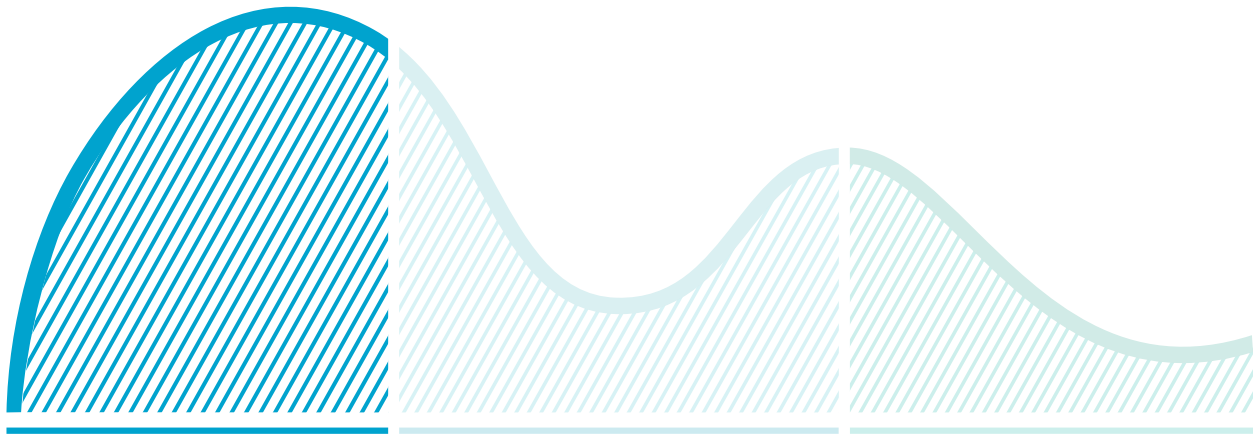
to hold the Week 2 Workshop on the weekend if possible, to best facilitate your research activity. We ask you to do this because preparing for and actually conducting the research will probably take you longer than 2 hours.

READINGS



01 Human-Centered Design Phase 1: Discover

THE DESIGN PROCESS

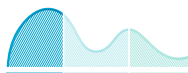


DISCOVER

The Discover phase builds a solid foundation for your ideas. Creating meaningful solutions begins with gaining a deep understanding of the needs of various stakeholders in your community. The Discover phase is about being open to new opportunities and getting inspired to create innovative ideas. With the right preparation, this experience can be eye-opening and will give you a great understanding of your design challenge going forward.

WEEK 2

DISCOVER



STEP 1

CHOOSE YOUR DESIGN CHALLENGE

As part of this course, you will be selecting one of three design challenges. You'll spend time with your team to select the design challenge that you wish to tackle and then create a common understanding of what you are working toward.

THIS GETS YOU

An overview of the team's knowledge and its open questions.

KEEP IN MIND

Remember to stay open to new information, try to discover what you don't already know.

Collect thoughts

As a team, your first step will be to talk about the design challenge you choose to work on. You'll collect and write down thoughts about your challenge. Your team will discuss how you can refine the challenge if it feels too broad, or too specific.

Review constraints or barriers

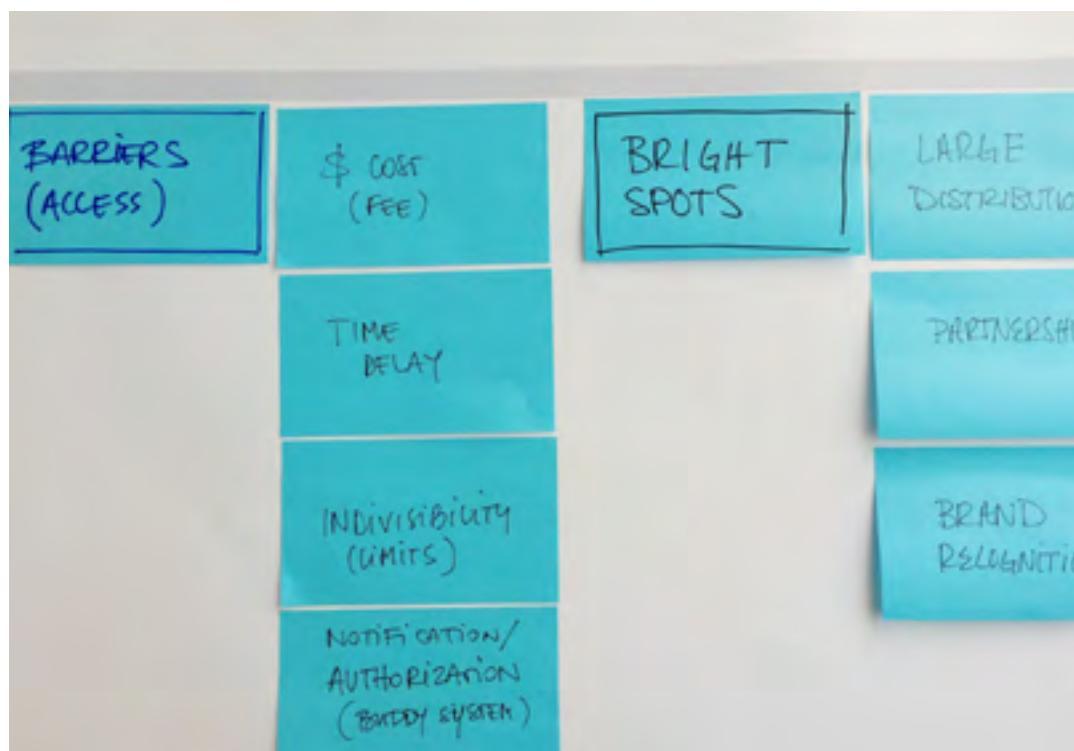
Your team will review a list of constraints or barriers that might prevent you from tackling the design challenge. You'll also brainstorm solutions for overcoming or working around these barriers.

Review what you already know

Chances are good that members of your team will have some knowledge about the design challenge you choose. It will be important for your team to share what you already know, so you can build upon it and then focus on discovering what you don't yet know.

Define what you don't know

You'll also want to write down and share what you don't know or don't yet understand about the challenge. And remember, an important part of human-centered design is embracing your beginner's mind. It's not a bad thing if there are aspects of the design challenge that you don't yet grasp.



STEP 2

PLAN YOUR RESEARCH METHODS

Inspiration is the fuel for your ideas. During the Discover phase you'll want to plan activities to learn from multiple peoples' perspectives and explore unfamiliar contexts.

Methods Overview

As part of this course, we've selected four categories of research for you to explore with your team. Here are some examples of these categories of human-centered design research in action:

1. Learn From Individuals in Your Community

A team in Kenya is gathering information from vegetable sellers at a local market as they design solutions improving urban food security in Nairobi. The team was able to talk to many different sellers, buyers and distributors as part of a single visit to the market.

2. Learn From Experts, near and far

A team talks with a child development expert via Skype in order to better understand appropriate uses of technology for young children in schools. Using video conferencing tools that make connecting with experts, especially those who may be outside of your immediate area, is a great way to get smart quickly.

3. Immerse yourself in context

A team designing new ways to improve clean cookstove usage in Tanzania spent an entire Saturday with a local family cooking the afternoon meal. This exercise allowed them to empathize more deeply with cookstove users and experience the challenges and benefits of cooking on charcoal firsthand.

4. Seek Inspiration In Analogous Settings

A team spent time observing NASCAR pitcrews changing tires, working as a unit, and making sure the car and the driver were safe in order to spark ideas around better practices at operating rooms in hospitals.



1. Learn From People

THIS GETS YOU

An in-depth insight into people's needs and motivations.

KEEP IN MIND

Field research activities are an opportunity to take a new perspective. Treat your conversation partner as an expert. Try not to make participants feel that you are more knowledgeable than they are, particularly when you are speaking with children.

Spending time with people on their own allows you to deeply engage with and learn from them. You will want to guide the conversation to gain a rich understanding of their thoughts and behaviors.

Brainstorm interesting people to meet

Imagine a map of all the people who might have something to do with your design challenge. Think of characteristics that would make them interesting to meet. As a team, you'll choose who you want to learn from and plan how to get in contact with them.

Think of extremes

Consider meeting people who represent "extreme" perspectives: people who are either completely familiar with your topic, or don't have anything to do with it at all. Extreme participants will help you understand unarticulated behaviors, desires, and needs in a way that is often more obvious and easier to see than in mainstream members of the community.

Plan the interaction and logistics

Think about what exactly you want to do with each participant. Where do you want to meet them? How much time will you spend with them? Is there an activity you can do together to enrich the conversation? What will you ask them to show you?

Invite participants

You'll need to connect with the people you want to interview. Don't be afraid to tap into your personal networks: people are generally happy to share what they know, particularly if you tell them that you are learning a new design process for creating positive social change in the community.

Create a trusted atmosphere

Start the conversation on a casual note. Talk about a subject that is unrelated to your research first to make the interviewee feel comfortable. Be considerate of the space you are in and make sure you have the appropriate level of privacy.

Pay attention to the environment

Try to meet in the person's context—in their home, office or workplace. During the conversation, keep your eyes open for what's around. Ask about objects or spaces you find interesting, and try to get a tour of the environment. Take photographs to help remember who you talked to and what you saw. Once we get to Week 3, photographs you've taken during your interviews will make your research more visual, meaningful, and easier to navigate. You should ask people if it's OK to take photographs of them and their surroundings.

Capture your immediate observations

During your interview, take a lot of quick notes in the voice of participants. We find that notetaking rather than recording makes the next step in the design process go more quickly. Try to capture your observations in the moment. It's important to capture direct quotes as people say them rather than interpreting what they are saying. This helps you build empathy and connect with them on a deeper level even after the interview is over. Later, when you discuss your learnings with your design team, you'll have a chance to interpret what you think people meant.



EXAMPLE

On the left, a team conducts an interview about cookstove usage with two Tanzanian women. On the right, the team invited a group of young social entrepreneurs to a group interview and chatted over snacks, before starting the interview. This helped the setting feel more relaxed and comfortable.

THIS GETS YOU

Access to in-depth knowledge in a certain area of expertise.

KEEP IN MIND

Find the balance between using experts to get a good understanding of the current situation and preserving space to think beyond the existing models.

THIS GETS YOU

Skills for learning from what's around you.

KEEP IN MIND

Approach your observation with an open mind and imagine this as the first time you have gone through this experience. Look for details you may have overlooked before.

2. Learn From Experts

Experts can provide in-depth information about a topic and can be especially helpful when you need to learn a large amount of information in a short amount of time.

Choose the participants

You will want to choose experts based on your objective: are you looking to learn about their field of study? Would you like someone's opinion on your topic who has rich knowledge of its context? Are you looking for someone with a radical opinion?

Set up for a productive conversation

Carefully plan how you want the conversation to flow. Consider asking the expert to actively help you work on an early concept. Remember, remote interviews with experts via Skype or a similar means of communication can work quite well.

3. Immerse Yourself In Context

With a curious mindset, inspiration and new perspectives can be found in many places and without much preparation. Sharpen your skills and get started observing the world around you.

Plan your observations

Choose a place where you can have an experience that is relevant to your challenge. For example, if you are looking for new ideas on ways to provide healthier food options for people in need of them, visit a low-cost cafeteria or restaurant during the lunchtime rush and wait in line, order a meal, and observe the restaurant or cafeteria as you eat.

Think of certain aspects of your experience you want to capture, such as:

» *What emotions do you experience (surprises, frustrations, motivations, decision making factors), and why?*

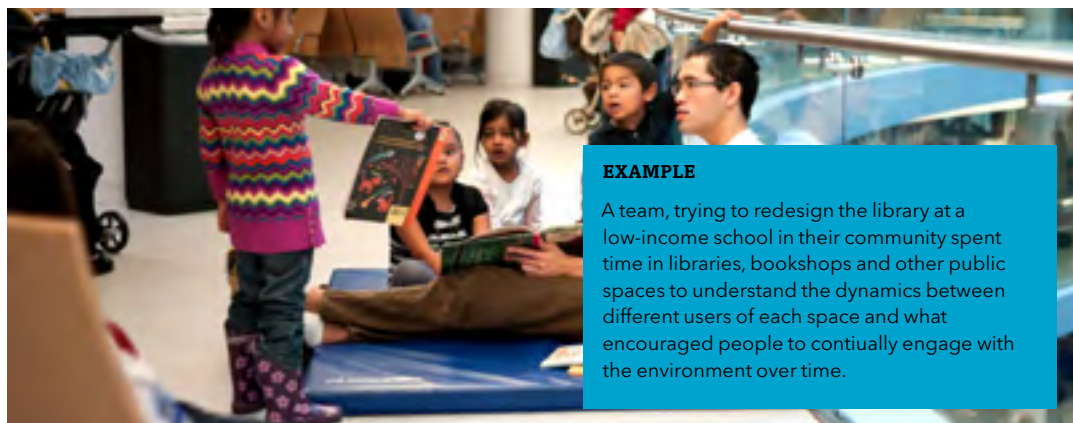
» *What unexpected challenges did you face?*

Explore and take notes

Try to blend in during your observation. Find a spot that's out of the way. Take notes and photos. Capture interesting quotes. Draw sketches, plans and layouts.

Capture what you have seen

Immediately after your observation, take some time to capture the things you found most interesting, and write them on Post-it Notes or in your notebook so you will be able to reorganize them later.



EXAMPLE

A team, trying to redesign the library at a low-income school in their community spent time in libraries, bookshops and other public spaces to understand the dynamics between different users of each space and what encouraged people to continually engage with the environment over time.

THIS GETS YOU

A new perspective on the challenge you're working on, inspiration and energy.

KEEP IN MIND

Explore with an open mind, even if you do not immediately understand how to apply your experiences. After you return, spend time relating what you found interesting to the challenge you are working on.

4. Seek Inspiration In Analogous Settings

Looking for inspiration in a different context outside of the social sector world opens your mind and can help to find a fresh perspective. Dare to go out of your comfort zone and explore.

Try thinking of analogies that connect with your challenge

Are there activities, emotions, and behaviors that make up the experience of your challenge? As a team, you'll select similar scenarios that you would like to observe in places and situations that are different than your design challenge. For example, if you are looking to re-envision the experience of waiting in line at a local bank for a person opening their first savings account, consider observing the lobby of a busy yet elegant hotel.

Make arrangements for your activities

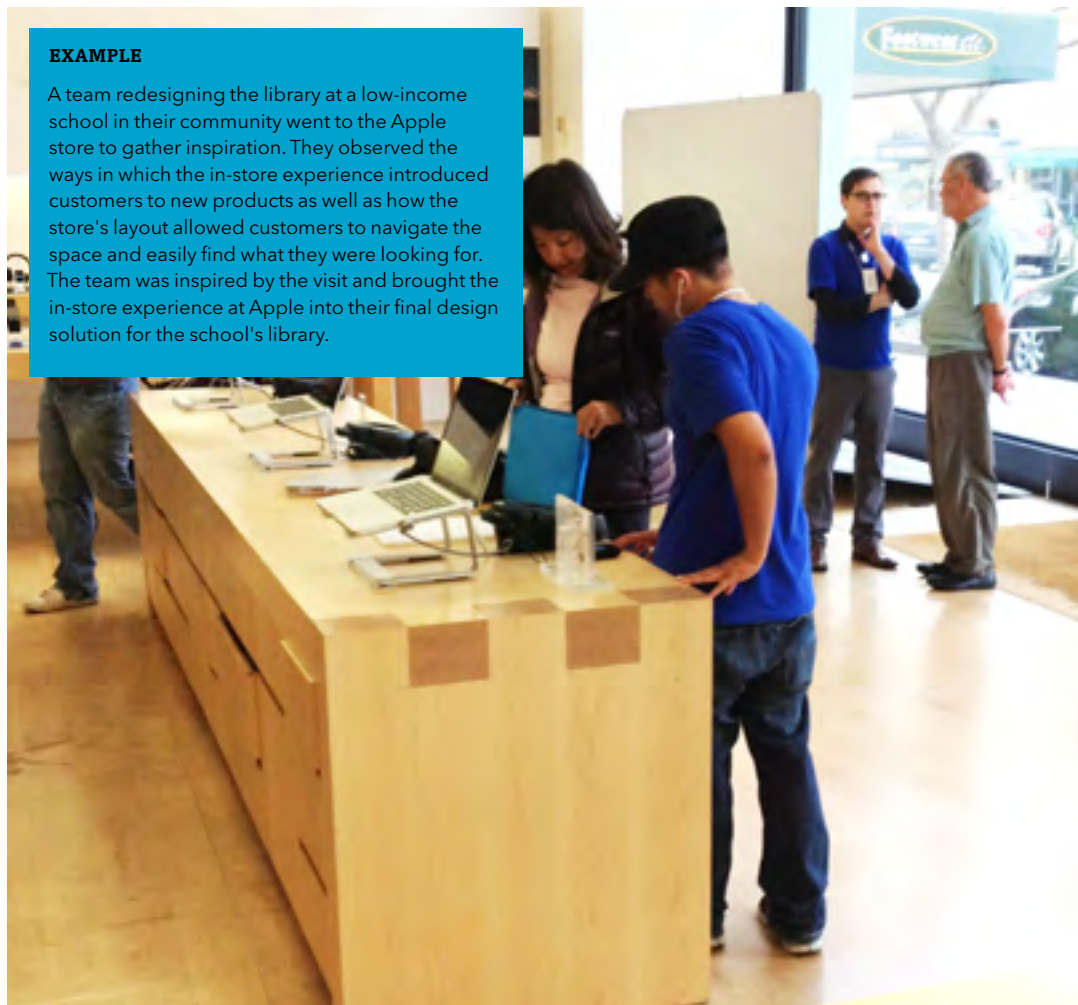
Plan the logistics of your activities if you need to talk with and learn from people while you are in these settings. For example, if you are going to a hotel for inspiration you may need to talk with a manager before you begin photographing layouts or staff and explain the purpose of your visit.

Absorb the experience

During your visit, first observe peoples' activities and their environments. Then, when appropriate, ask questions about what you have noticed.

EXAMPLE

A team redesigning the library at a low-income school in their community went to the Apple store to gather inspiration. They observed the ways in which the in-store experience introduced customers to new products as well as how the store's layout allowed customers to navigate the space and easily find what they were looking for. The team was inspired by the visit and brought the in-store experience at Apple into their final design solution for the school's library.



STEP 3

BUILD YOUR QUESTION GUIDE

Having a good conversation with a stranger is not always easy. When speaking with research participants, you have to both build trust and help them feel comfortable while collecting relevant information. You will work with your workshop team to carefully prepare for your conversations in order to manage this delicate balance.

Identify topics

As a team, you'll identify themes you want to learn about in your conversations with research participants. What do you need to learn about your challenge? What are you hoping to understand about people's motivations and frustrations? What do you want to learn about their activities? Is the role they play in their network of importance?

Organize your questions

You will organize your questions using the following structure:

- » *Gather basic demographics first. Ask people their age, what they do for a living, if they have children etc.*
- » *Then get specific: begin with questions your participants are comfortable answering. For example, if you are designing new savings products, you might ask people to make a list of all of the things they purchased yesterday.*
- » *Go broad: ask more profound questions about hopes, fears and ambitions. It's best if these questions are open-ended, but relate subtly back to your design challenge. For example, you might ask someone to draw the five big things they're saving money for over the next ten years and how they fit into their life goals.*

Word questions strategically

Frame questions in an open-ended way. This helps you to further explore your challenge and interesting themes you picked up on during the conversations in more depth. Try things like:

- » *"Tell me about an experience..."*
- » *"What are the best/worst parts about...?"*
- » *"Can you help me understand more about...?"*

Encourage people to tell you their whole story and avoid yes/no questions.

Create a question guide

You will create a question guide that is highly readable so you can glance at it quickly during your conversation.

Build tangible conversation starters

It can be helpful to share early ideas or concepts in your conversation, particularly when you are working on an abstract challenge. You can create a sketch, build a simple cardboard representation or describe a scenario that your participants can respond to. These are often called sacrificial concepts.

Confirm your plans

You should confirm date, time and location for your research activities. Agree on logistics, including transportation, with your team. Can you conduct your research during the Week 2 Workshop? Consider scheduling Week 2 on a weekend so that your team has more time to talk with and meet people. We encourage you to take as much time as you need for the research activities. Don't feel like you must complete Week 2 within the allotted workshop time.

Assign roles

As part of your field research, you'll designate one person to lead the conversation and a different person to take notes. Remember to encourage them to write down direct quotes and capture the details we've outlined on p.13. The team should also select someone to photograph your interview subject and the surrounding environment. Make sure you ask permission before taking any photos. It's often best to build trust with your interview subject before asking to take photos, so you may want to leave this until you've finished the interview.

Research Tips

Use the following research tips to draw out interesting stories and track what's important.

Establish trust with participants.

Practice creating an atmosphere in which people feel comfortable enough to open up.

- » Listen patiently. Do not interrupt, and allow for pauses to give participants time to think.
- » Use non-verbal gestures, such as eye contact, nodding, and smiling, to reassure participants you are engaged and interested in what they are saying.

Get the most out of your interactions.

Encourage people to reveal what really matters to them.

- » Ask participants to show you the object or space they are talking about.
- » Have participants draw what they are talking about.
- » Try asking "why?" in response to consecutive answers.

Know what to look for.

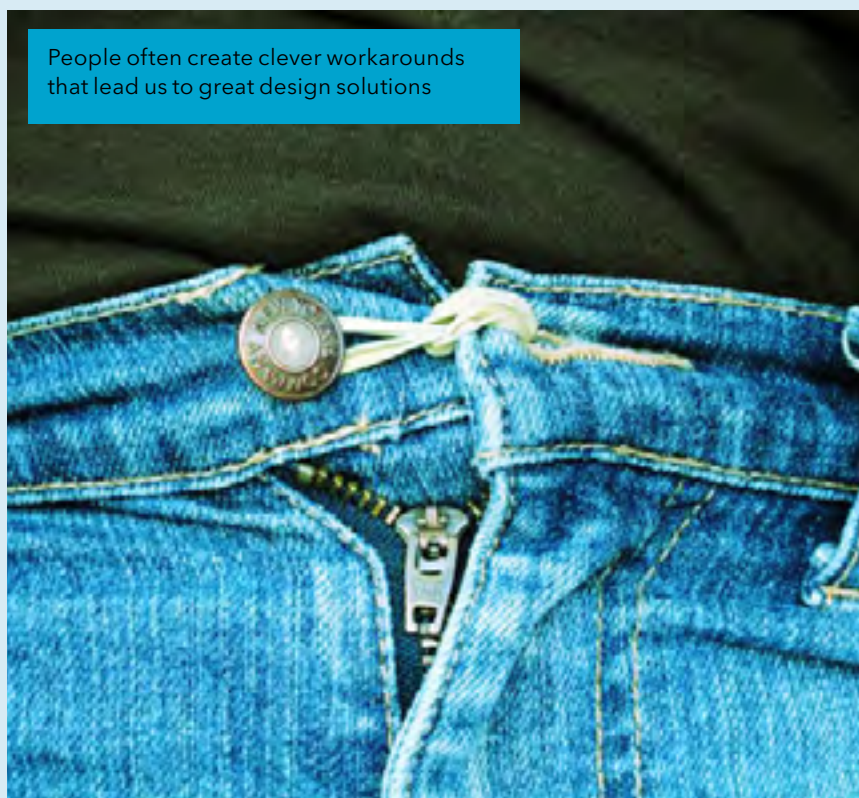
Look for indications that reveal what people care about—and keep in mind, that they may contradict themselves. What people "say" is often different than what they actually "do".

- » Look for cues in the things that people surround themselves with or the way they carry themselves.
- » Notice workarounds and adaptations people have made to make a system or tool serve their needs better.
- » Explore things that prompt certain behaviors, for example, what needs do the images below reveal?

Capture what you see.

Take lots of notes and photos of what you see, hear, feel, smell and taste during a field visit. Capture direct quotes whenever possible. Write down your immediate thoughts without worrying about an interpretation.

People often create clever workarounds that lead us to great design solutions



STEP 4

CAPTURE YOUR LEARNINGS

When you step out of an interview or an observation, it's easy to feel overwhelmed by the amount of information you have taken in. You'll want to use a few minutes immediately after the session to start capturing what you learn.

Find a space and time

Plan extra time so that you can share your thoughts and impressions right after your interview or observation with your teammates. This may often happen in a coffee shop or while in transit.

Share your impressions

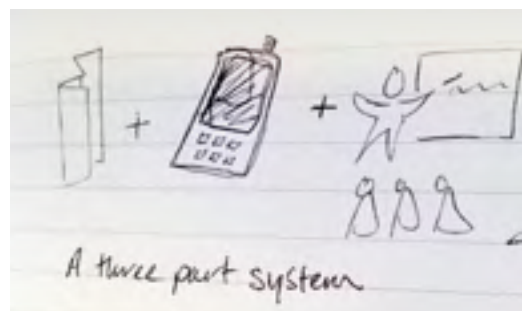
With your team, share the things you found most interesting. Do not worry about interpreting these stories yet. Listen to each others' recollections of the observation. Compare experiences and impressions.

To cover the most important topics, consider using these prompts:

- » *Personal details: who did you meet (profession, age, location, etc)?*
- » *Interesting stories: what was the most memorable and surprising story you heard?*
- » *Sound bites: what are the most memorable quotes that people heard? Why are they memorable?*
- » *Motivations: what did this participant care about the most? What motivates him/her?*
- » *Frustrations: what frustrated him/her?*
- » *Interactions: what was interesting about the way he/she interacted with his/her environment?*
- » *Remaining questions: what questions would you like to explore in your next conversation?*

Document your thoughts

Capture your observations in a notebook or on Post-it Notes. Writing them on Post-it Notes will make them easier to reorganize them later. Illustrate your thoughts with drawings and sketches as they come into your mind. You should not worry about the way these sketches look or feel intimidated about being visual. These illustrations will simply help you communicate your ideas to others and give you a head start on brainstorming concepts.



Don't hesitate to capture an idea you have in the moment. However, wait to share it later with your team once the interview is over and you are all sharing your thoughts together.

READINGS



02 Case Study: Jacaranda Health

JACARANDA HEALTH USING A HUMAN-CENTERED DESIGN APPROACH TO PROVIDE LIFESAVING CARE



Each year 250,000 women in Africa do not survive childbirth. Neither do their babies. Yet nearly all maternal and infant mortality is preventable with access to skilled providers, well-equipped facilities, and rapid diagnosis and treatment of obstetric complications. Jacaranda Health aims to provide affordable, accessible lifesaving care to pregnant women and their babies in Nairobi, Kenya. To do this, they are taking a human-centered design approach.

Nick Pearson, Founder of Jacaranda Health, was introduced to human-centered design when he worked at Acumen in Nairobi. "I served as the local liaison for the IDEO team on the [Ripple Effect](#) project. We were looking at ways to improve storage and transport of water, and it was incredibly impressive watching the IDEO team in action."

Bad patient experience is one of the major reasons that women in Kenya avoid giving birth in hospitals and other birth facilities. The vast majority of women who participated in Jacaranda's field research in Nairobi complained of long waits, poor treatment from nurses, crowded labor wards, and difficulty

getting education and birth-preparedness counseling. This issue is one of the biggest hurdles to increasing delivery in facilities.

"Over the last year and a half, we have held design sessions with groups of prospective patients and nurses to get their help in developing our model of care." One such session involved nurse role-playing. In Group One, two women were chosen to act out a typical interaction between a clinician and a patient, first in a public facility and then in a private one. The group then discussed the differences in behavior that they saw, and were asked questions about why these differences exist and how patients would prefer to be



treated. In Group 2, two mothers were asked to role-play "good" and "bad" clinical nurses, drawing upon their own experiences, or those of friends and family. The participants and audience members then discussed their experiences.

But not all design sessions proved as insightful. "An appealing principle is that the end user (in our case the patient) knows the best answer to a design challenge," says Nick. "But sometimes patients find it challenging to imagine a health service beyond what they've experienced in poor-quality public hospitals. For example, we did a 'sketch your ideal waiting room' exercise, and after complaining of the poor waiting room experience in public hospitals, almost

all participants drew something that looked exactly like a public hospital waiting room. It can be difficult sometimes to know how to balance end-user input and fresh ideas from outsiders.

"Involving our patients in designing their own care gives Jacaranda a competitive advantage over other facilities. But just as importantly, it lets the women of Nairobi design the maternity care they want, so that more of them will seek skilled care, resulting in healthier outcomes for mothers and babies."

Curious to learn more about Jacaranda Health? Visit: <http://jacarandahealth.org/>

READINGS



03 IDEO.org stories from the field:

**A Human-Centered
Approach to Cookstoves**

**Early Learning with the
Bezos Family Foundation**



A HUMAN-CENTERED APPROACH TO COOKSTOVES

In 2012, IDEO.org began work on a project with the [Global Alliance for Clean Cookstoves](#), an organization that seeks to advance the global market for clean cookstoves.

A compelling technology, clean cookstoves have the potential to improve health by reducing exposure to smoke from traditional fires and stoves, improve livelihoods through increased savings from reduction of fuel use, and help the environment via a decrease in carbon emissions. Emily Friedberg, a designer on the project, wrote about a day spent cooking with a Tanzanian family as part of her team's Discover research.

Given language and cultural barriers, it's relatively difficult to really get to know people in Tanzania in a short amount of time. To remedy this situation, our IDEO.org cookstoves team arranged to spend an entire day with one family, casually hanging out and cooking an afternoon meal.

Daniel and Gaudensia welcomed us into their family of nine in the Tanzanian town of Buhongwe. Our first stop was the market where we bought everything we needed for our feast including meat, beans, sweet potato, ugali flour, fruits and vegetables, and.... a live chicken.

When we got home, the ladies quickly got to work lighting the three charcoal stoves and cutting up the meat and vegetables. The oldest boy, Godwa, was told to slaughter the squawking chicken. Cameras ready, we watched as he cut through the chicken's neck, drained the blood, and left it twitching in a bowl ready for plucking.

The meal took several hours to prepare. There was swapping of pots and lids, lids doubled as cutting boards, and each item including water and the chicken went through several discreet processes before it reached the table. And when it was done, three hours later, it was elaborately dished onto plates for the men and the guests and eaten out of cooking pots for women and children, and all consumed in the space of 20 minutes.

And then, when it was cleared, they lit the charcoal stove again and started preparing for dinner.



Emily Friedberg
Business Designer



EARLY LEARNING WITH THE BEZOS FAMILY FOUNDATION

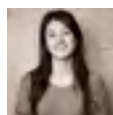
With many children from low-income families showing up to kindergarten unprepared to learn, the [Bezos Family Foundation](#) partnered with IDEO.org to design ways to get the message out to more low-income parents and caregivers that they are their child's first and best teachers. IDEO.org's design team traveled around the United States to learn more about parent-child engagement in low-income communities. Here are two excerpts from Suzanne Boutilier and Marika Shioiri-Clark reflecting on some of the team's Discover research.

At New York's Bellevue Hospital we met Dr. Alan Mendelsohn, who spoke to us of the popular parental misconception that electronics make kids smarter. In fact, even watching an educational children's TV show with a highly engaged parent does not positively impact a child's early learning. The presence of the engaged parent merely moves the impact needle from negative to zero.

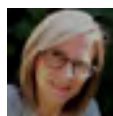
Now, consider the fact that a massive, glowing, flat screen TV was the centerpiece of every single living room we visited while meeting with families. We often had to ask politely if we could turn it off for our interview. Television as babysitter for kids and escape mechanism for parents was the rule. Knowing that we can't expect families to stop watching TV, we need to find a way to use its omnipresence to the children's advantage.
--Suzanne

The parents we met, sometimes still children themselves, were voluntarily spending every dollar they had on toys, books, and clothes for their young ones. We talked to a single mom living in a housing project in Harrisburg who spent every spare cent of her \$23,000 salary as a childcare worker to send both of her children to top-rated private schools in the area, because, "they have better teacher-to-student ratios."

I had honestly never considered the level of sacrifice that these parents were making on a daily basis for their children. We routinely heard lines like, "I don't care about me anymore, my money all goes to them." And although it was sometimes sad to hear stories of parents who had taken jobs they hated, or decided against returning to school because of the pressures of single parenting, it was inspiring to hear stories of triumph and the times that made the work worth it.
--Marika



Marika Shioiri-Clark
Environments Designer



Suzanne Boutilier
Writer

READINGS



04 Optional Articles & Videos

Read

HCD Connect "Hear" Methods

The "Hear" methods on HCD Connect correlate to the "Discover" methods that you're learning about as part of this Workshop. <http://www.hcdconnect.org/methods>

The Discover phase in Action

HCD Connect user Jeannette Rowland is tackling the challenges of food security by working with the community to redesign school gardens in rural Nicaragua. Learn more: <http://bit.ly/HCDinNicaragua>

HCD Connect user Jacqui Watts is designing new financial inclusion solutions for rural farmers in Uganda by structuring an agricultural-specific micro lending model. Learn more: <http://bit.ly/HCDinUganda>

Download

Human centered-design in action

Learn more about the different Discover methods used by the IDEO.org team as part of a clean cookstoves project in Tanzania. Download the final deliverable from the project: <http://bit.ly/cookstovesdeliverable>

HCD Toolkit pg's 29 - 68

The "Hear" stage in the HCD Toolkit correlates to the "Discover" phase that you just read about and that you'll be doing yourself as part of the Week 2 workshop. <http://www.hcdconnect.org/toolkit/en/download>