toolkit for educators

# Design Strategy for Social Innovation

creation

PENNY HERSCOVITCH & DAN GOTTLIEB

adaptation ABBY FIFER MANDELL

development STELLA HERNANDEZ

# Design Strategy for Social Innovation: A Toolkit for Educators

Originally created by ArtCenter College of Design Associate Professors Penny Herscovitch & Dan Gottlieb for their <u>Designmatters SAFEAGUA</u> educational initiative, this Toolkit grew out of a collaboration with Abby Fifer Mandell and Stella Hernandez for the <u>USC Marshall Brittingham</u> <u>Social Enterprise Lab</u> - <u>Social Innovation Design</u> <u>Lab</u>. In each course, cross-disciplinary teams of students co-create products that respond to poverty in under-resourced communities in California and Latin America.

This open source toolkit for educators is intended for use in academic settings at the undergraduate and graduate level. In sharing this resource, it is our hope that educators will gain a foundation and inspiration from which to design their own courses.

The toolkit covers a range of exercises that guide interdisciplinary student teams through a design thinking process to address challenges facing local and global communities. This term-long process encompasses preparation and field research; definition of key design opportunities; co-creation with communities and partner organizations; and iterative prototyping of products, systems, and social enterprises.

This toolkit draws inspiration from IDEO's Field Guide to Human Centered Design and FROG Design's Collective Action Toolkit — both recommended as supplemental teaching resources. This toolkit is intended to be used in conjunction with: instructor and guest lectures, supplemental readings, method cards, a minimum of 6 full research days with the partner community, relevant additional assignments, midterm and final presentations of prototypes, and a product implementation plan or complete business model canvas.



# DESIGN FOR SOCIAL INNOVATION ROADMAP

pg 03



# PRE-FIELD RESEARCH

pg 08







DEFINING PROBLEMS & OPPORTUNITIES

pg 03



DESIGN IDEATION & ITERATION

pg 08



MIDTERM PRESENTATION pg 10



FIELD TEST & ITERATE PROTOTYPES

pg 03



FINAL PRESENTATION
pg 08



BIBLIOGRAPHY & READINGS



# Design for Social Innovation Roadmap



CHAPTER 01

Empathy and human connection are the heart of the design process in seeking to create social impact. Co-creation between student teams and the partner community is essential to yield innovation and create value. This section maps a 14-16 week process: conduct field research to understand user priorities; identify key challenges and opportunities; generate ideas; prototype, test & iterate solutions; strategize implementation.



# **Roadmap of Process**



PAGE 04

DESIGN FOR SOCIAL INNOVATION ROADMAP

# Glossary

#### DESIGN CHALLENGE

The central topic towards which we focus our energy, i.e. Learning for life.

#### PROBLEM STATEMENT

The problem is (OBSERVED BEHAVIOR) which causes/effects/leads to (THE OBSERVED CONSEQUENCE(S) OF THAT BEHAVIOR). This a problem for (INDIVIDUAL, FAMILY, GROUP OR COMMUNITY) because (HOW THIS IS A PROBLEM IN A LARGER SENSE).

#### OPPORTUNITY STATEMENT

Opportunities are the springboard for ideals and solutions... Opportunities start with the phrase "HOW MIGHT WE...?" to suggest a mindset of possibility. (Source: IDEO HCD Create Guide) WHAT IS AN OPPORTUNITY AREA? → An opportunity area is a stepping stone to idea generation.

 $\rightarrow$  An opportunity is a rearticulation of problems or needs in a generative, future facing way.

 $\rightarrow$  An opportunity area is not a solution. Rather, it suggests more than one solution. It defines a space of possibility in which to generate solutions.

#### IDEATION

The process of generating design ideas.

#### ITERATE

To develop or transform designs rapidly through feedback.

#### CO-CREATION

The process of sharing design opportunities, prototypes, and every step of the process with community members and partner organizations to understand their feedback and ideas, so we can create value and solve these problems together. Co-creation can happen through field research, field testing, or via phone, SKYPE, email, or FACEBOOK to constantly get feedback and make improvements.

#### DESK-CRIT

The process of sharing design opportunities, prototypes, and every step of the process with community members and partner organizations to understand their feedback and ideas, so we can create value and solve these problems together. Co-creation can happen through field research, field testing, or via phone, SKYPE, email, or FACEBOOK to constantly get feedback and make improvements.

#### PROTOTYPE

Prototyping is a methodology for making solutions tangible in a rapid and lowinvestment way. It's a proven technique for quickly learning how to design an offering right and for accelerating the process of rolling out solutions to the world. Prototyping is about buiding to think whatever it takes to communicate the idea. Prototyping allows you to quickly and cheaply make ideas tangible so they can be tested and evaluated by others - before you've had time to fall in love with them.

#### What is prototyping?

 $\rightarrow$  BUILD TO THINK: Prototypes are disposable tools used throughout the concept development process, both to validate ideas and to help us generate them. Prototypes are a powerful form of communication and force us to think in realistic terms about how someone would interact with our concept.

→ ROUGH, RAPID, RIGHT: Prototypes are not precious. They should be built as quickly and cheaply as possible. → ANSWERING QUESTIONS: It is essential to know what question a prototype is being used to answer, whether about desirability, usefulness, usability, viability, or feasibility. (Source: IDEO HCD Create Guide)

# Pre-Field Research





CHAPTER 02

This phase aims to prepare students for an intensive, productive field research trip. To make the most out of limited time in the field, it is key for students to prepare thoroughly by practicing interviewing and research methodologies, building their "empathy muscle," and gathering supplies.

# **Exercise in Empathy**

# Good Design starts with Empathy.

The design process requires an open mind and empathy – listening and seeking to understand people whose lives may differ from our own. There are many things we take for granted in our daily lives, from abundant electricity, to clean water, to unlimited access to information. The goal of this exercise is to become conscious of those things we take for granted in our own daily lives, which our partner communities and users may lack or live without.

For the Exercise in Empathy, ask students to do something outside of their comfort zone to begin building problem solving and creativity skills, overcoming assumptions, and flexing their empathy muscle. Ask students to work with their team members to start to build camaraderie across different disciplines and backgrounds.

For example: if designing with a community that lives off the grid or without consistent electric light, ask students to live for three days without using electric lights. Students may begin to invent solutions to address the challenges they encounter. Ask students to keep a detailed journal documenting their experience, with photos, sketches and writing, then to write insights based on their experiences.





MATT HEINZLER, ART CENTER COLLEGE OF DESIGN





# To help structure student team's field research, we recommend using method cards.

Method cards guide students through participatory, qualitative and quantitative research methodologies, and help frame the goals of the research phase based on the project brief. Create your own method cards, or use an existing model, such as IDEO's method cards.

To prepare for the first visit to the field, ask students to: Role play interviewing techniques. Role play working with a translator, if relevant.Practice using method cards or any other research methodologies. Make a list of what supplies they will need and divvy up responsibilities as a team to acquire the supplies. Write reflections about going their hopes and expectations, challenges or concerns, and the experience of going outside of their comfort zone. Practice speaking the basics of the language of your partner community.

FROG COLLECTIVE	AC
INTERVIEWING 101-	FION
SEEK ACTIVITY 2	T 0 0 L
	KT.



Method card examples: IDEO method cards SAFE AGUA method cards SAFE NINOS method cards

# SAFE AGUA CHILE METHOD CARDS, DEVELOPED BY DESIGNMATTERS AT ARTCENTER





# Field Research



## CHAPTER 03

During field research, students work alongside individuals, stakeholders, families and community partners to uncover needs and identify design opportunities. Students establish empathy and deep connections with local families. This section (along with additional method cards or activities defined by the instructor) guide students through participatory, qualitative, and quantitative research methodologies to gain understanding of people's needs, constraints, and aspirations.

FIELD RESEARCH

# **Field Research**

During field research, method cards and class exercises guide participatory understanding of people's needs, constraints and aspirations.

Small student teams conduct research with individuals or families in the community to begin to gain understanding through: observation; participation and direct experience; qualitative and quantitative inquiry; listening to people's stories; creative methods for co-creation, such as drawing or making prototypes together. By pairing a student team with a specific individual or family, and working in small teams of 2-4 students (with a translator if necessary), students can build deeper connections and establish empathy. The support of a partner organization and community leader(s) is key to connecting with individuals and families.

Plan the field research schedule to include a rich range of activities, such as:

- Small student teams to work closely and connect deeply with individuals and families.
- The class to lead a community brainstorming workshop in a larger group.



- Student teams to take time to organize their observations, document their research, and define their insights and initial directions.
- Meetings of the whole class to debrief and share
- Informal social gatherings between students, community members, and partner organizations.
- Meetings with local experts.

In the community brainstorming workshop, students act as facilitators and mediators with community leaders and participating users in order to uncover insights that inform the process of design.

This workshop is lead by students in the field as a class, with at least 8-10 community members, for approximately 1-2 hours.

Students prepare and conduct a collective brainstorming exercise with the community group to identify the most critical challenges and opportunities. For example:

Conduct the "Jam Session" or a similar exercise from Frog Design's Collective Action Toolkit.

Ask all participants to write their aspirations and/or challenges around the research topic on post-its. Draw a large arrow on a big piece of paper. To understand key priorities, ask participants to arrange their post-its along the large arrow. Then ask them to write their hopes and dreams for themselves and family on post-its and stick on a separate large paper.

After the brainstorming session, ask each participant to go around and share their dreams (including students & faculty and any partner representatives).





FIELD RESEARCH

# Defining Problems & Opportunities



CHAPTER 04

After returning to the classroom from the field research trip, students collect, organize, and analyze the data, in order to define problems and key opportunity areas where design can make an impact. At this stage, getting feedback from the community leaders and partner organizations -- a process called "co-creation" -- is crucial, so students and stakeholders can begin to address these challenges together.

# PAGE 14

# What is the problem?

# 01 Write at least 5 problems for your group using the following formula:



which leads to physical pain and inability to get a part time job.
This is a problem for the entire family,
because children need clean uniforms to learn, fathers need clean uniforms to work and mothers
are not able to utilize their skills to earn money because they are busy doing laundry.

# 02 For each of the 5 problems, expand on the opportunity area by:

- Write a catchy name (ex. A Life of Laundry)
- Jot down a few supporting insights (e.g. direct quote or observation, photo, video clip, etc.)
- Summarize the problem in 1-2 phrases with a compelling anecdote from the field (For example "Maria carries water up and down a steep hill 7 times a day, and laundry is the household chore that uses the majority of her limited water supply and time -- up to 20 hours a week.")
- Describe how to tell if this is a worthwhile right problem to answer? (For example, we could ask Maria if she spent less time doing laundry, what she would do with her time; or do internet searching to find out how wide-spread this problem is internationally.)



Start with: The top priorities that individuals identify during community workshop. At least 3 of the problems you choose should have been identified by the community.

#### Frame the problem:

Ask yourself - What is the heart/essence/root of the problem?



# How to Understand the Problem

Storyboarding and Problem-mapping are two related strategies to visually communicate and analyze the problem.

#### PROBLEM - MAPPING



A problem map focuses on the broader context and system of a problem, its root causes, and its long-term effects.

Create a problem map:

- Write all of the elements and players that are connected with the problem. Draw arrows to show the relationship between different elements of the problem, such as cause and effect.
- Repeatedly ask "what are the root causes of this problem?" and "what are its effects?". There may be even broader effects than you imagine, and seemingly unrelated root causes.
- Stick red dots on the map to identify the worst pain points for the community.

#### STORYBOARDING



A storyboard (like a comic strip) is a step-by-step illustrated narrative that focuses on a person's experience of the problem.

For each problem, create a storyboard:

- Write a "title" of the problem at the top of the page.
- Draw 4-6 rectangles on a piece of paper (or draw each frame on a Post-It).
- In the rectangle frames, draw a storyboard of the problem from the user's perspective. Include captions and/ or thought-bubbles to narrate the problem in the first person.



1

1 1 1

-----

1

1

1

1

.....

-----

1

Т

# **Storyboard Example**



Suma is from Nabal. She is a kamlary a worker who is bound to a master in exchange for food and shelter. Her parents send her brother to school but Suma is not able to go.



She washes dishes, cleans the house, and goes to the forest to fetch firewood. She also minds the goats and children.



In town, Suma sees a poster that annouces that girls can weave patches to fund their education. She begs her master to let her go and he agrees to send her to school if she pays for it.



The girls receive small locms that they can weave any design they create in it in a short amount of time. They can share colors with each other and it's so fun that it is more creft then work.



Every small patch that they make they hand it to the reacher. She gives them another story card in return. The collector comes once a month and takes all the patches to the NGO where they make the products to be sold internationally.



While weaving they learn not only the education provided in their books, but they discuss the cards and stories that they have in them.



Our teacher tried very hard to convince my master to set me free and finally he old. Suma is now free and has returned to her family with the help of her teachers.



She goes to school and gains confidence by socializing with other girls. She feels scrong and free and thinks she can do anything. With other girls they made a group which is trying to help all kamiari girls be free.

STORYBOARD OF MOSAIC PROJECT FOR THE GIRL EFFECT STUDIO AT ARTCENTER BY KATHY TIEU, SHIVA FARROKHI, DIANA JONES, JOAN KIM AND JOYCE LIN





# **Opportunity Areas**

- An opportunity area is a stepping stone to idea generation.
- An opportunity is a rearticulation of problems or needs in a generative, future facing way.
- An opportunity area is not a solution. Rather, it suggests more than one solution. It defines a space of possibility in which to generate solutions.
- Opportunities start with the phrase "HOW MIGHT WE...?" to suggest a mindset of possibility.

Source: IDEO Toolkit for Human Centered Design



DEFINING PROBLEMS & OPPORTUNITIES



# **HOW MIGHT WE? Create opportunity areas**

# 01 As a whole class, brainstorm on post-it notes your field research observations of:

- Values and resources (e.g. tons of parent involvement in classroom, people walk dogs every day, family goes to church on Sunday)
- Consumption patterns (e.g. families buy tons of bottled water)
- Aspirations (e.g. dream for children to go to college)

# 02 In your team, turn your two problem statements into 20 "How might we?" statements (10 for each problem). Create crossings between the post-it notes of observations with your problem, to get to an opportunity area. Use the formula:

How might we use/leverage	(VALUES & RESOURCES/CONSUMPTION, PATTERNS/ASPIRATIONS)
to solve the problem of/as a s	solution for (SUMMARY OF YOUR PROBLEM STATEMENT) ?
example:	
From the problem that KIDS	CAN'T FOCUS
to the opportunity area ¦ HO'	W MIGHT WE USE GOING TO COLLEGE TO HELP KIDS FOCUS ¦ ?



Push yourself to consider unlikely pairings. They hold the most inspiring and creative power.

If your opportunity sounds like a specific solution, back it up by asking yourself "why would we want to offer this solution?" or "what user needs are answered by this solution?" - IDEO

# 03 Use the below criteria to select your team's top opportunity areas

- Does it have the potential to make a significant impact for people's lives? (quantitative / qualitative impact on well-being; income; daily life; dignity)
- Does it align with community's top priorities? (Refer to field research community exercise)
- Does it lead to self sufficiency for individuals living under the poverty line in this and other communities like this?
- Is it something that you're passionate about?



# Design Ideation & Iteration



CHAPTER 05

Where do design ideas come from? This section introduces multiple ways to generate ideas -- by asking "What If?" and brainstorming or mindmapping around different prompts, and by thinkining through making (also known as prototyping). Remember, this is an iterative process!

# PAGE 20

# **Instructions for Mindmapping**

Mindmapping is a brainstorming format where you create a map or network of ideas, to generate as many ideas as possible and riff off other ideas.

"Brainstorming gives permission to think expansively and without any organizational, operational, or technological constraints... The practice of generating truly impractical solutions often sparks ideas that are relevant and reasonable. It may require generating 100 ideas (many of which are silly or impossible) in order to come up those three truly inspriational solutions." - IDEO TOOLKIT FOR HUMAN CENTERED DESIGN

Start with your opportunity area in the center of a large piece of paper. Write and sketch as many ideas on the paper as you can think of in a set amount of time (say 20 minutes). Cluster your ideas around larger categories or criteria (for example, easy to use, low cost, etc). Then challenge yourself to double the number of ideas in another set amount of time. Anything goes -- at this stage, go for quantity!

Create a mind map for each of your 3 opportunity areas.

Ask each team member to star or put a sticker on her/ his top 3 ideas from across the mind maps. Discuss the reasons why, and collectively as a team select your top three.



# Supplies:

# **○** markers

~~~~~

- larkers
- large paper at least 18"x24" or roll of butcher paper

○ dot stickers

# Mindmap Example



MINDMAP FOR VITAMIGOS, SAFE AGUA, BY CORA NEIL & THOMAS KONG

# IF YOU GET STUCK WHILE BRAINSTORMING...

# Seven brainstorming rules from IDEO's toolkit for Human Centered Design

# 1 Defer judgment

There are no bad ideas at this point. There will be plenty of time to judge ideas later.

# 2 Encourage wild ideas

It's the wild ideas that often provide the breakthroughs. It is always easy to bring ideas down to earth later!

# 3 Build on the ideas of others

Think in terms of 'and' rather than 'but.' If you dislike someone's idea, challenge yourself to build on it and make it better.

# 4 Stay focused on topic

You get better output if everyone is disciplined.

# 5 Be visual

Try to engage the left and the right side of the brain.

# 6 One conversation at a time

Allow ideas to be heard and built upon.

# 7 Go for quantity

Set an outrageous goal for number of ideas and surpass it! Remember there is no need to make a lengthy case for your idea since no one is judging. Ideas should flow quickly.





If you get stuck while brainstorming, try one of these:

- \_ Go back to your problem map and storyboard. Pin them up on a wall, brainstorm solutions to address the pain points of the problem.
- \_ Use one of the Frog CAT exercises on the following 3 pages: Find True North, Idea Remix, or Grow an Idea
- \_ Go for a walk with your teammates and bring a stack of Post-It notes with you.

# "What If?" - 50 Post-Its of Design Ideas

- Brainstorm 50 design solutions, big or small, to address your opportunity.
- Sketch each idea and write a short name/description on a Post-It. (50 Post-It notes total).
- Start each idea with "What if?" Anything goes, no matter how far-fetched (e.g. What if kids could travel to space to learn science?)



ARTCENTER STUDENT NICHOLAS JAYANTY PRESENTS SAFE NIÑOS OPPORTUNITIES AREAS TO PARTNER ORGANIZATION IN SANTIAGO, CHILE.

 $\times$ 

SIGN IDEATION

# What to do with your 50 post-its?

# Supplies:

- **○** markers
- large paper at least 18"x24"
- $\bigcirc$  dot stickers



- 1 Put all your team's Post-it notes on a big piece of paper on the wall.
- 2 Cluster your Post-it notes by category. Write a catchy name for each bigger categories that emerge on the big paper. (For example: Smart School Uniforms, Better Bucket, etc)
- 3 Keep mindmapping! Sketch new ideas or combinations of ideas around the clusters of ideas you brought in. Add 5-10 more ideas.
- 4 With your opportunity staments in mind, each team member stick a red dot on each of the top 5 ideas with the strongest

potential to achieve your criteria/ goals. Ask at least 2 other teams and 2 instructors to do the same.

5 Collectively as a team select your top 10 ideas, and discuss the reasons why.

# **Competition Matrix - Benchmarking**

# Students create a benchmarking matrix

to analyze the competition and to begin to formulate their solution's value proposition. What differentiates the new solution from what already exists on the market?

- Each team member: print a letter-size sheet with a grid of 9 color images of examples of products you found online that are similar to your idea and/or inspirational. Consider different market segments: DIY / developing world / luxury goods / camping / survivalists. For each, list the name & price (if known). Cut into 9 small squares.
- 2 As a team, draw a matrix on a large piece of paper. Then compile your examples, and arrange on the matrix.
- 3 How can you improve on existing solutions (by making them more affordable or higher impact)? Or combine elements of existing solutions? Or create something new?



COMPETITION MATRIX OF TEJO CONEJO, SAFE AGUA, BY CONNIE BAKSHI & RUDY RUMMEL



Go to a store that sells similar products (for example, a teacher supply store, camping store, science museum shop, art supply store, etc)

# **Develop Designs**

# Choose one of these four formats to develop designs.

#### STORYBOARD

Draw a visual story (like a comic strip) of someone using your idea and how it helps the users. (Refer to Frog's "Storyboarding 101.")



#### DETAILED DRAWING

Draw in detail all elements of the idea. Add notes, arrows and captions to explain how the design works.



#### ROLE PLAY

Act out the idea, how it works, and its impact, using characters, scenes and props to help tell the story. (Refer to Frog's "lights, camera, action!")



#### DIAGRAM

Make a detailed diagram of all elements of the idea. Add notes, arrows and captions to explain how the system works, and who is involved at each step.







# Phase 1 - "Frankenstein-ed Prototype"

The goal of the Thinking Through Making exercise is to:

- Begin to make rough 'proof-of-concepts' to develop your initial ideas through making & hands-on exploration
- Test design opportunities and solutions to your problem

Use paper, existing products, and found objects "Frankensteined" together to make 3 mock-ups, each with a SINGLE key Target Criteria.



DESIGN IDEATION & ITERATION

# **Test & Iterate Prototypes**

# **Phase 2 - Iteration**

Develop your Frankensteined prototypes based on feedback from the class.

Test each prototype locally and gather feedback from participants. (For example, ask family members in your target age-group to try it out, or go to a kids museum or playground and ask kids and their parents to test your prototype).

Ask participants to test all three of your prototypes, to compare and contrast them. For each prototype, identify 3 questions for participants to answer.

Photograph & video the testing process, and take careful notes on the participants' responses - both positive and negative.

Based on the feedback, how will you develop your next design iteration?









# Midterm Presentations



CHAPTER 06

At the midpoint of the class students present design proposal options, as well as the key elements of the process that lead to these designs -- including field research, problem statement, opportunity areas, ideation and iteration. Feedback from guest critics and community partners provides diverse perspectives on how to develop final designs.

# **Midterm: Helping the Audience Empathize**

"In my experience, for people to take action on your idea at the end of a presentation, they have to feel empathy at the beginning....

So, how do you introduce emotion in the opening minutes?

The best way is to quickly establish the inadequacy of the status quo and then use one relevant, real-world story from your research to bring a point of frustration to life for your audience. You want them to believe how dysfunctional the status quo is and feel like they are experiencing the pain for themselves."

Luke Williams, WHY SHOULD I CARE? BUILDING EMPATHY FOR IDEAS http://designmind.frogdesign.com/blog/why-should-i-care-building-empathy-for-ideas.html

----

**RESENTATIONS** 

MIDTERM

# **Midterm Pro Tips for Presentations**

## OUTLINE YOUR PRESENTATION IN ADVANCE AND DECIDE WHO IN YOUR GROUP WILL SAY WHAT

Determine which elements are most critical to your project and emphasize them accordingly. What is the first thing someone should understand about your ideas? Second? Third?

### START BY BUILDING EMPATHY FOR YOUR IDEAS

Refer to "Why Should I Care? Building Empathy for Ideas" quote on the previous page.

## SHARE YOUR PASSION AND CONFIDENCE!

If you are excited, confident, and passionate about your ideas, your positive energy will be contagious.

# PRACTICE, PRACTICE, PRACTICE,

Ideally in front of friends who don't know about your project. Be sure to practice as a team.

### HAVE ALL WORK PINNED UP EARLY

..so you can have calm time before your presentation, to review notes or just sit quietly.

#### IT'S OK TO REFER TO NOTES:

As long as you don't read directly from your notes, note cards or notes in Powerpoint can be great tools to organize the key points in your presentation.

# NO BORING BULLET POINT LISTS

(Show, Don't Tell...)

#### NO STOCK IMAGES

And avoid wacky transitions between slides.

#### TELL THE STORY

..with direct quotes, anecdotes, photos and video clips from the field.

### KEEP TEXT ON SCREEN BRIEF

2 phrases maximum. NO long paragraphs on slides. Test all font sizes on a projector in advance to be sure they are legible. Be sure that your verbal presentation gives the audience additional detail beyond what they can read on the slide.

## SHOOT FOR 30 SECONDS PER SLIDE

If you stay on one slide for over a minute, add in additional visuals to illustrate your story.

### DO A TECH CHECK IN ADVANCE

Be sure that your projection, all videos, and sound work properly.

### CONSIDER YOUR PRESENTATION FROM THE AUDIENCE'S PERSPECTIVE:

Speak slowly & clearly, think about what they need to know to understand your proposal, keep eye contact with the audience, and don't block their view of your project.

#### INVITE THE AUDIENCE

..to come up to test your prototypes or look at your boards. Then engage them in a conversation to get the most out of their expertise. Even if it may feel intimidating, the guests are all there to help you make your project as good as possible.

#### END ON A STRONG CONCLUSION!

# **Post Midterm Worksheet**

After the midterm presentation, ask students for written reflections, individually or in their team:

- 01 What did reviewers identify as the strengths or potentials in your ideas? What did they think would make your ideas stronger?
- 02 At what principal level(s) did the discussion focus? (e.g. concept, problem definition, prototype, user experience, impact, research, business model, etc.)
- 03 What feedback resonated with you? What feedback was surprising?
- 04 Now that you are on the other side of the midterm, is there anything you wish you'd done differently to prepare? If you had it to do again, is there anything you would change about the experience?

\_\_\_\_\_

PAGE 32

M I D T E R M P R E S E N T A T I O N S

# Field Test & Iterate Prototypes



CHAPTER 07

After midterm, representative members of each team return to the field to test the prototypes with the community and partner organization. This process of co-creation and community feedback is essential to incubate and iterate designs, to create the most value for the user. In some cases, teams may pivot completely based on field-testing input; in others, teams may make specific refinements to designs.

# To prepare for field testing midterm prototypes with the community, fill out the following worksheet:



FIELD TEST & ITERATE PROTOTYPES

# Field Testing Pro Tips

# **Prototype Testing:**

Be sure to bring any tools to fix, install, or customize your prototype in the field -- be resourceful! Test it yourself first. Then make any adjustments before asking participants to test it.

If your product or service will be sold, list potential prices for people to circle - how much would they be willing to pay?

Ask if anything similar already exists that they are currently using or aware of.

Tips from IDEO Toolkit for Human Centered Design:

A great way to get honest feedback is to take several executions out to people. When there is only one concept available, people may be reluctant to criticize. However, when allowed to compare and contrast, people tend to speak more honestly.

Try to include all stakeholders who would touch the concept; in addition to the end user, include manufacturers, installers, service providers, distributors, retailers, etc.

The goal is to solicit honest feedback, even if it is negative. It's better to know early on before much investment has been made that a solution is not desirable.



Vary group size. Begin with a large group (10-15) to present the solution, then break into smaller groups, one per solution for a more intimate conversation.

Adapt on the fly. If it becomes clear that there is one aspect of the solution that is distracting people from the core idea, feel free to eliminate this piece or change it.

Ask participants to build on the ideas. If a participant asks a question like, "Can this service be purchased by the community or just an individual?" Ask the question back to them: "Should the service be purchased by the community or individual?"

# **Planning to Pivot/Refine Worksheet**

The goal of this exercise is to prepare for any feedback your team gets from field testing: how to use positive feedback to refine your project; how to use constructive criticism to develop your project; and even how to leverage negative feedback to pivot.



In this column list possible responses from users during field testing ranked from most to least positive.



In this column list your new goals and priorities, and the next steps to develop, refine, or pivot your project that you could take in response to specific feedback.

| IOST POSITIVE e.g. "I love it!"       |  |
|---------------------------------------|--|
|                                       |  |
|                                       |  |
|                                       |  |
|                                       |  |
|                                       |  |
|                                       |  |
|                                       |  |
|                                       |  |
|                                       |  |
| EAST POSITIVE e.g. "I'd never use it" |  |
|                                       |  |
|                                       |  |

FIELD TEST & ITERATE PROTOT

# Select One Design Idea to Pursue

- 1 Review your "Planning to Pivot/Refine" worksheet. How did the results from field testing compare to what you anticipated? Circle the "IF/THEN" statements that most closely align with the results of field testing.
- 2 Based on the field testing, did the participants clearly prefer one of your ideas? If so, why?
- 3 If there wasn't a clear preference, create a ranking matrix to rank all ideas, from best to worst, on the following criteria:

How well does it meet your three top criteria/goals to create social impact (established prior to midterm)? (for example: saving time / reducing illness / improving ability to concentrate / etc.)



4 Have a conversation with your instructors to discuss which design idea you will pursue and why. Write it here. If you pivoted and your goal has shifted significantly, what is your new goal for your project? At this point in the process, students select one design idea to pursue, with instructor guidance. Students should complete multiple iterations, going back to or corresponding with community as much as possible.

#### STEP 1

Based on the field testing & "Planning to Pivot/Refine" worsheet, what are the highest priority updates to your design?

- 1.
- 2.
- 3.

#### STEP 2

How will you create a new prototype and develop your design to address your highest priority? Do it!

#### STEP 3

How will you test your design locally? (e.g. Yourself, or with friends, family members, or local school-kids) Do it!

How will you record what you learn from each round of testing? Do it!

How will you refine your design in response to what you learned from the testing? Do it!

DEVELOPMENT OF BALDE A BALDE, BY KRISTINA JESENA AND SHINGO

MAMIYA, ACCD



# Final Presentations



# CHAPTER 08

Students create a professional final presentation (including slide deck, verbal presentation, posters, and prototypes) to share with an audience of partner organization(s), educators, and professionals. The conversation can help further develop a scalable design. After the final, opportunities may emerge to further develop the outcomes into market-based products with the potential for real-world implementation.

# **Implementation Plan**

# Each team will submit one plan, which will address:

- A detailed description of the product or service
- How the product or service addresses the needs of the target community

- Cultural rationale (how this product in particular fits the aspirations/ needs/lifestyle of the customer and/or consumer in the target community)
- The business model for generating revenue (in the target community and elsewhere), including production costs and pricing

\_\_\_\_\_

------

- Scale drawings, photos, or diagrams of all product components
- Appropriate next steps to bring the product to market, including 3 opportunities you plan to pursue

The implementation plan should be no more than 7 pages in length, including appendixes.



# **Final Presentation Prep**

# These instructions are intended to accompany a supplemental final requirements assignment sheet.

- Sketch all of the content you plan to present for final. Include all wall posters, prototypes, and other presentation contents (refer to the final requirements assignment).
- 2 Outline your team's verbal presentation & slide deck. (This can be based on midterm, incorporating the feedback on your midterm presentation.)
- 3 Plan what your final prototype will be. Consider what is the best way to communicate your idea to an audience so they can truly experience it and imagine how it works. How you will you make this final prototype?
- 4 Create a "to do" list with key deadlines to divide up responsibilities equitably between each team member.



SKETCH BY KRISTINA MARRERO, ART CENTER STUDENT





# **Final Presentation Examples**



USC STUDENT GLORIA LEUNG PRESENTS ROOTS: A SCHOOL GARDENING KIT & EDUCATIONAL SCIENCE TOOL FOR BAEP 471: SOCIAL INNOVATION DESIGN LAB FINAL PRESENTATION.

ARTCENTER STUDENTS CORA NEIL AND THOMAS KONG PRESENT VITAMIGOS FOR SAFE AGUA PERU FINAL.





ARTCENTER STUDENTS ALEX CABUNOC AND JI A YOU PRESENT GIRADORA HUMAN-POWERED WASHER/SPIN DRYER FOR SAFE AGUA PERU FINAL.







# Bibliography & Readings



CHAPTER 09

These readings, videos, and resources provide a deeper understanding of design thinking, design for social innovation, ethnography, the broader context of poverty in America and globally.



# Bibliography

# TOOLKITS & METHODS RESOURCES

- Frog Design Collective Action Toolkit
- <u>The Field Guide to Human-Centered</u>
   <u>Design by IDEO</u>
- IDEO Method Cards: 51 Ways to Inspire Design by IDEO
- <u>The Social Design Methods Menu by</u> Lucy Kimbell and Joe Julier
- Delft Design Guide: Design Strategies and Methods by Annemiek Van Boeijen, Jaap Daalhuizen, Jelle Zijlstra, Roos van der Schoor
- Convivial Toolbox: Generative Research for the Front End of Design by Liz Sanders and Pieter Jan Stappers

### SOCIAL IMPACT DESIGN PERSPECTIVES

- Design Revolution: 100 Products That Empower People by Emily Pilloton
- Out of Poverty by Paul Polak
- Designmatters LEAP Symposium
- Design with the Other 90%: Cities by Cynthia E. Smith
- <u>"Why Design Won't Save the World"</u>
   <u>by David Stairs</u>
- <u>"Is Humanitarian Design the New</u> Imperialism?" by Bruce Nussbaum

- <u>"8 Lessons for Creating Social Impact"</u> by Robert Fabricant
- IDEO.org Deliverables
- Design Like You Give A Damn edited by Architecture for Humanity

### SOCIAL ENTERPRISE

- The Fortune at the Bottom of the Pyramid by CK Prahalad
- Next Generation Business Strategies for the Base of the Pyramid by Ted London and Stuart L. Hart
- The Business Solution to Poverty by Paul Polak and Mal Warwick
- Out of Poverty by Paul Polak
- 100 Under \$100 by Betsy Teutsch
- Deep Economy by Bill McKibben

### DESIGN THINKING

- <u>"Spark Innovation Through Empathic</u> <u>Design" by Dorothy Leonard and</u> <u>Jeffrey Rayport</u>
- <u>"Design Thinking Won't Save You" by</u> <u>Helen Walters</u>
- <u>"How Aha Really Happens" by William</u>
   <u>Duggan</u>
- The Innovator's DNA by Dyer, Gregersen, and Christensen
- Creative Confidence by Tom Kelley and David Kelley

#### ETHNOGRAPHY

- The Landscape of Qualitative Research by Norman K. Denzin and Yvonna S. Lincoln
- Decolonizing Methodologies: Research and Indigenous Peoples by Linda Tuhiwai Smith
- A Framework for Understanding Poverty by Ruby Payne
- Social Inequality: Patterns and Processes edited by Martin Marger
- The Tyranny of Experts by William Easterly

### SAFE AGUA

- Safe Agua by Mariana Amatullo, Liliana Becerra, Dan Gottlieb, Penny Herscovitch
- Safe Agua Colombia
- Safe Agua Peru



# **Credits**

#### DOWNLOAD THIS TOOLKIT

www.designmattersatartcenter.org/ library-entries/social-innovation-toolkit/

## CREATIVE COMMONS LICENSE

Attribution-NonCommercial-ShareAlike (CC BY-NC-SA 4.0)

#### CONTRIBUTORS

Design, Original Content & Creation: Penny Herscovitch (Associate Professor, ArtCenter College of Design / Co-Founder, Padlab) and Dan Gottlieb (Associate Professor, ArtCenter College of Design / Co-Founder, Padlab)

Design Development: Stella Hernandez (Instructor, ArtCenter College of Design and University of Southern California)

Curricular Adaptation for Entrepreneurial Education: Abby Fifer Mandell (Executive Director, Brittingham Social Enterprise Lab and Visiting Professor of Entrepreneurship, Lloyd Greif Center for Entrepreneurial Studies, USC Marshall School of Business)

Illustration/Graphic Design: Adriana Crespo

### FEATURING WORK FROM STUDENTS IN

DesignMatters at ArtCenter College of Design for the SAFE AGUA studio hosted by the Environmental Design Department

USC Marshall Brittingham Social Enterprise Lab for BAEP 471: Social Innovation Design Lab at USC

## THANKS TO THE SUPPORT OF Venturewell

### USC'S PARTNER ORGANIZATIONS

MEND, Dolores Huerta Foundation

#### ARTCENTER'S PARTNER ORGANIZATIONS

TECHO.org, Socialab, ANSPE, Compartamos con Colombia

#### SPECIAL THANKS TO

Adlai Wertman David Mocarski Mariana Amatullo Designmatters team: Jennifer May, Steven Butler, Elisa Ruffino, Helen Cahng, Susannah Ramshaw, Carolline Kim Mariana Prieto Jared Goodner Nohora Guerrero and the community of Altos del Pino, Colombia Karina Barreto Rojas, Luz Ramos Osores and the community of Cerro Verde, Peru Rosita Reyes and the community of Campamento San José, Chile

|    |                  | . 7 |
|----|------------------|-----|
| ÷. | WE WELCOME       |     |
| ÷  | YOUR FEEDBACK &  |     |
| ÷  | STORIES OF USING |     |
| ÷  | THIS TOOLKIT:    |     |
|    | pad@padlab.com   |     |

