# Design Thinking

*"Design thinking has come to be defined as combining empathy for the context of a problem, creativity in the generation of insights and solutions, and rationally in analyzing and fitting various solutions to the problem context." – Wikipedia*

*Design Thinking is "matching people's needs with what is technologically feasible and viable as a business strategy." – Tim Brown, CEO and president of IDEO*

Many schools and districts, including the districts involved in the initial James Irvine Foundation/ConnectEd Linked Learning District Initiative, have been trained in the Design Thinking process and use design thinking as part of their decision making process. Design Thinking is "a creative process that helps you design meaningful solutions in the classroom, at your school, and in your community."

A few favorite design thinking resources include:

***Design Thinking Toolkit for Educators***    "This toolkit contains the process and methods of design along with the Designer's Workbook, adapted specifically for the context of K-12 education. It offers new ways to be intentional and collaborative when designing, and empowers educators to create impactful solutions."
http://designthinkingforeducators.com/about-toolkit/

***Use Our Methods***
http://dschool.stanford.edu/use-our-methods
> *From the D School Website* "We have put together a collection of methods for folks new to design thinking.  See these "Get Started" methods on the right, which have proved to be most useful for folks as they're running through their first few design cycles.  These methods are a subset of the Bootcamp Bootleg (see below).
> For all the resources on this page, you're welcome to share these resources with others… spread the word! We only ask that you respect the Creative Commons license (attribution, non-commercial use). These methods are a curated collection of work created at the d.school and beyond, and we're grateful to everyone who contributed. We'd also love to hear feedback about how you're using them. Let us know what you find useful, and what methods you have created yourself — write to: bootleg@dschool.stanford.edu "

**Method: What? How? Why?**   "During observation mode, What? How? Why? Is a tool that can help you drive to deeper levels of observation. This simple scaffolding allows you to move from concrete observations of the happenings of a particular situation to the more abstract potential emotions and motives that are at play in the situation you're observing. This is a particularly powerful technique to leverage when

analyzing photos that your team  has taken into the field, both for synthesis purposes, and to direct your team to future areas of needfinding".
http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/what-why-how.pdf

**Method: Interview Preparation**  - Includes Why prepare for an interview, Brainstorming questions, identifying and ordering themes, and refining questions
http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/interview-preparation.pdf

## Method: Interview for Empathy
Includes: Why interview? How to interview (Ask why; Never say "usually" when asking a question; encourage stories; look for inconsistencies; listen to nonverbal cures/ don't be afraid of silence; don't suggest answers to your questions; ask questions naturally don't ask binary questions; only ten words to a question; only ask one question at a time, one person at a time; Make sure you're prepared to capture. ("Always interview in pairs. If this is not possible, you should use a voice recorder – it is impossible to engage a user and take detailed notes at the same time.")  http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/interview-for-empathy.pdf

**Method: Extreme Users**   "Designers engage with users (people!) to understand their needs and gain insights about their lives. We also draw inspiration from their work-arounds and frameworks. When you speak with and observe extreme users, the needs are amplified and their work-arounds are often more notable. This helps you pull out meaningful needs that may not pop when engaging with the middle of the bell curve. However, the needs that are uncovered through extreme users are often also needs of a wider population. "  http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/extreme-users.pdf

**Method: Empathy Map**:  Includes: Why use an empathy map :An Empathy Map is one tool to help you synthesize your observations and draw out unexpected insights."
How to use an empathy map – Unpack: Create a four quadrant layout on paper or a whiteboard. Populate the map by taking note of the following four traits of your user as you review your notes, audio, and video from your fieldwork.
SAY: What are some quotes and defining words your user said?
DO: What actions and behaviors did you notice?
THINK: What might your user be thinking? What does this tell you about his or her beliefs?
FEEL: What emotions might your subject be feeling?
IDENTIFY NEEDS….
IDENTIFY INSIGHTS…
http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/empathy-map.pdf

**Method: Why-How Laddering**   Includes: WHY why-how Ladder AND HOW to why-how ladder   "As a general rule, asking 'why' yields more abstract statements and asking 'how' yields specific statements." http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/why-how-laddering.pdf

**Method: Point-of-View MadLib**   Includes: WHY use a POV madlib and HOW to use a POV madlib   http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/point-of-view-madlib.pdf

**Method: Stoke**  Includes: WHY stoke, HOW to Stoke, plus some sample Stoke activities: Category, Category, die!; Sound Ball; "Yes, Let's" http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/stoke.pdf

**Method: Brainstorming**   Includes: Brainstorming Rules (One Conversation at a Time, Go for Quantity, Headline!, Build on the Ideas of Others, Encourage wild ideas, Be Visual, Stay on Topic, Defer Judgment – NO Blocking;  WHY Brainstorm; How to Brainstorm http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/brainstorm-rules.pdf

**Method: Facilitate a Brainstorm**    Includes: WHY facilitate a brainstorm; HOW to facilitate brainstorm – Energy, Constraints, Space http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/facilitate-a-brainstorm.pdf

**Method: Selection**   Includes: WHY Brainstorm selection is important; HOW to select; plus samples of different selection techniques, including: post-it voting, , bingo selection method….the four categories method  …Carry forward multiple ideas into prototyping. http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/selection.pdf

**Method: Prototype for Empathy**   Includes: WHY prototype for empathy AND HOW to prototype for empathy  http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/prototype-for-empathy.pdf

**Method: Prototype to Test**   Includes: WHY Prototype to Test, HOW to prototype to test, Some tips for prototyping to test: Start Building, Don't Spend too Long on one prototype, Build with the user in mind, ID a variable http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/prototype-to-test.pdf

**Method: Storytelling**  Includes: WHY Storytelling over other forms of communication; HOW to design a story, including What's the point?, Be Authentic, Character-Driven, Dramatic Action, Details, Design Process is a Built in Story

**Method: I Like, I Wish, What If**   Includes: WHY use I Like, I Wish, What if AND HOW to use I Like, I Wish, What if?  "Designers rely on personal communication and, particularly, feedback, during design work. You request feedback from users about your solution concepts, and you seek feedback from colleagues about design frameworks you are developing. Outside the project itself, fellow designers need to communicate how they are working together as a team. Feedback is best given when I-statements."  "The third option, "What if…" has variants of "I wonder…" and "How to…". Use what works for your team."
http://dschool.stanford.edu/wp-content/themes/dschool/method-cards/i-like-i-wish-what-if.pdf


## MIXTAPES: FOUR-HOUR DESIGN SPRINTS WITH YOUR TEAM

We've created three different "mixtapes" that provide step-by-step instructions on how to use some of our methods in sequence over the course of a half-day working session — these are a great resource if you're trying to figure out how to fit several design thinking methods together under an overarching objective like getting to new ideas, getting to insights, or getting to a prototype.

**CHART A NEW COURSE: PUT DESIGN THINKING TO WORK**  If you just ran the d.gift crash course, we hope you and your team found it to be a valuable experience, and you're excited about doing more design thinking. If so, you are likely asking yourself how to maintain the momentum and integrate a design approach into your work.

Well, guess what?   **WE MADE YOU A MIXTAPE**  *(Three actually. We stayed up all night!)* Each is a different way to advance your project — think of them as a soundtrack for your next journey!

Choose one of them to help you immediately bring design thinking into your real-life challenges. Each mixtape will guide you through half a day of design thinking work. Plan to advance your project more in this half day than you might in a typical week.
In the spirit of bias-toward-action, get started now while you've still got your dancing shoes on.
**Start here:**
Think about a challenge you and your team are facing. Ask yourself what you need to do more of to advance this project. Then choose one of these three mixtapes:

• **UNDERSTAND Mixtape: Discovering insights via human engagement**
  http://dschool.stanford.edu/wp-content/uploads/2012/02/understand-mixtape-v8.pdf

• **EXPERIMENT Mixtape: Advancing your solution via prototyping**

• **IDEATE Mixtape: Generating unexpected ideas via reframing your challenge**

# THE BOOTCAMP BOOTLEG

http://dschool.stanford.edu/wp-
content/uploads/2011/03/BootcampBootleg2010v2SLIM.pdf

"The Bootcamp Bootleg is an overview of some of our most-used tools. The guide was originally intended for recent graduates of our Bootcamp: Adventures in Design Thinking class. But we've heard from folks who've never been to the d school that have used it to create their own introductory experience in design thinking. The Bootcamp Bootleg is more of a cook book than a text book, and more of a constant work in-progress than a polished and permanent piece. This resource is free for you to use and share – and we hope you do. You can download the entire Bootcamp Bootleg at http://dschool.stanford.edu/wp-content/uploads/2011/03/METHODCARDS2010v6.pdf

"This compilation is intended as an active toolkit to support design thinking practice. This guide is not just to read – go out in the world and try these tools yourself.  In the following pages, we outline each mode of a human centered design process, and then describe dozens of specific methods to do design work. These process modes and methods provide a tangible toolkit which supports the seven mindsets …that are vital attitudes for a design thinker to hold."


## D. MINDSETS

FOCUS ON HUMAN VALUES
Empathy for the people you are designing for and feedback from these users is fundamental to good design.

SHOW DON'T TELL
Communicate your vision in an impactful and meaningful way by creating experiences, using illustrative visuals, and telling good stories.

CRAFT CLARITY
Produce a coherent vision out of messy problems. Frame it in a way to inspire others and to fuel ideation.

EMBRACE EXPERIMENTATION
Prototyping is not simply a way to validate your ida; it is an integral part of your innovation process. We build to think and learn.

BE MINDFUL OF PROCESS
Know where you are in the design process, what methods to use in that stage, and what your goals are.

BIAS TOWARD ACTION
Design thinking is a misnomer; it is more about doing than thinking. Bias toward doing and making over thinking and meeting.

RADICAL COLLABORATION
Bring together innovators with varied backgrounds and viewpoints. Enable breakthrough insights and solutions to emerge from the diversity.
MODES OF THE DESIGN PROCESS


**D. MODES**
MODE: EMPATHIZE
WHAT Is the empathize mode
Empathy is the foundation of a human-centered design process. To empathize, we:
        Observe. View users and their behavior in the context of their lives.
        Engage. Interact with and interview users through both scheduled and short "interviews."
        Immerse. Experience what your user experiences.

WHY empathize

MODE: DEFINE
WHAT is the define mode?     WHY define?

MODE: IDEATE
WHAT is the ideate mode?  Why Ideate?

MODE: PROTOTYPE
What is the Prototype mode?  WHY do we Prototype?

MODE: TEST
What is the test mode? WHY test?


**D. METHODS**
METHOD CARDS
Method: Assume a Beginner's Mindset
Method: What? How? Why?
Method: User Camera Study
Method: Prepare for an Interview
Why prepare for a n interview? How to prepare for an interview

Method: Interview for Empathy

Method: Extreme Users
Method: Analogous Empathy
Method: Story Share-and-Capture
Method: Saturate and Group
Method: Empathy Map
Method: Journey Map
Method: Composite Character Profile
Method: Powers of Ten
Method: 2x2 Matrix
Method: Why-How Laddering
Method: Point-of-View Madlib
Method: Point-of-View Analogy
Method: Point-of-View Want Ad
Method: Critical Reading Checklist
Method: Design Principles
Method: "How Might We" Questions
Method: Stoke
Method: Brainstorming
Method: Facilitate a Brainstorm
Method: Selection
Method: Bodystorming
Method: Impose Constraints
Method: Prototype for Empathy
Method: Prototype to Test
Method: Testing with Users
Method: Prototype to Decide
Method: Identify a Variable
Method: User-Driven Prototyping
Method: Wizard of Oz Prototyping
Method: Feedback Capture Grid
Method: Storytelling
Method: Shooting Video
Method: Video Editing
Method: I Like, I Wish, What If


### *Design Project Zero: A 90-Minute Activity*

http://dschool.stanford.edu/use-our-methods/design-project-zero-a-90-minute-experience/

### *Virtual Crash Course (video facilitation that leads the*
### *group)*  http://dschool.stanford.edu/dgift/
*"A 90-minute video-led cruise through our methodology"*

Welcome to the d.school's Virtual Crash Course resource page!
We know not everyone can make a trip the d.school to experience how we teach design thinking. So, we created this online version of one of our most frequently sought after learning tools. Using the video, handouts, and facilitation tips below, we will take you step by step through the process of hosting or participating in a 90 minute design challenge.
We invite you to join this prototype! Since we're just at the beginning of this distance learning adventure, things may feel a little rough around the edges. We welcome your feedback to help us improve the experience. Shoot us a note at crashcourse@dschool.stanford.edu.

DP0 (Design Project Zero) is a 90-minute (including debrief) fast-paced project though a full design cycle. Students pair up to interview each other, create a point-of-view, ideate, and make a new solution that is "useful and meaningful" to their partner.
Two versions of DP0 are "The Wallet Project" and "The Gift-Giving Project". They have the similar format, only the topic is different.

The original DP0 The Wallet Project was created for the d.school's very first course in 2004 and the project starts with students looking at the content of their partner's wallet or purse (and goes on to ask every student to design something for their partner).
Another DP0 topic is The Gift-Giving Project where students are asked to redesign how their partner gives gifts.

**Get the materials to facilitate the activity for a group yourself**
https://dschool.stanford.edu/groups/designresources/