

Summer Design Program 2016

August 9-11





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The Woodrow Wilson Academy

MISSION

The Woodrow Wilson Academy of Teaching and Learning seeks to transform teacher education by creating a model to prepare teachers and school leaders to succeed in the diverse classrooms of today and to shape and lead the schools of tomorrow.

woodrowacademy.org

Games and Learning

Space

Where does a game take place?

Goal

What does a player or team need to do to win?

Components

What characters and/or materials are parts of the game?

Core Mechanics

*What actions can characters and other components do?
Or have done to them?*

Rules

What can a player do or not do in a game?

Games and Learning

Space, Goal, Components, Core Mechanics, Rules

Decompose a Game

- **Space:** Where does the game take place?
- **Goal:** What does a player or team need to do to win?
- **Components:** What characters and/or materials are parts of the game?
- **Core Mechanics:** What actions can characters and other components do? Or have done to them?
- **Rules:** What can a player do or not do in the game?

Rock, Paper, Scissors

Games and Learning

Space, Goal, Components, Core Mechanics, Rules

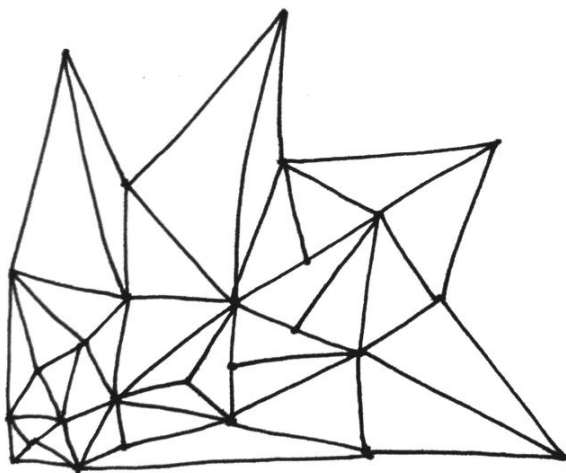
Modify a Game

Rock, Paper, Scissors

Games and Learning

Space, Goal, Components, Core Mechanics, Rules

Notes



Design Thinking



Empathy

Understand the thoughts, emotions, and motivations of your audience



Define

Clarify the challenges, build opportunities, and identify constraints



Ideate

Generate a wide variety of ideas to tackle the problem



Prototype

Demonstrate the concepts behind your product using simple materials



Test

Collect feedback from users



Refine

Implement changes in the next prototype



Step 1. Empathy

Goal: Understand the thoughts, emotions, and motivations of your target audience

Empathy Interview

- Listening
 - Understanding unmet needs
-

Step 1. Empathy

Goal: Understand the thoughts, emotions, and motivations of your target audience

Empathy Interview

Interviewee Profile

Name:

Background:

Basic Information:

- Introduce yourself
- Introduce the project
- Ask the new teacher to introduce him/herself

Dig Deeper

- Evoke stories
- Explore emotions
- Question statements

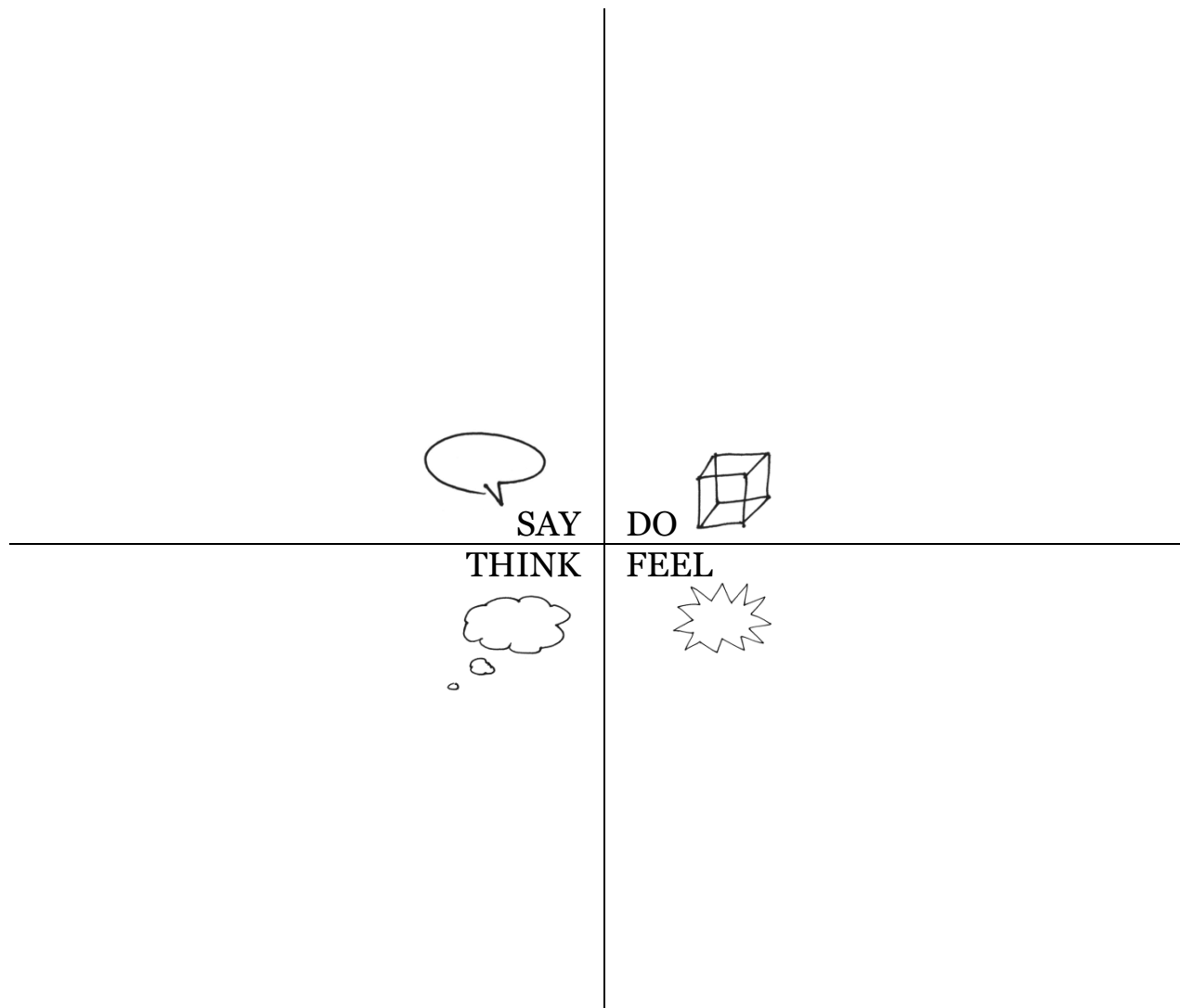
Step 1. Empathy

Goal: Understand the thoughts, emotions, and motivations of your target audience

Empathy Map

An Empathy Map can help unpack information from your interview and draw out unexpected insights

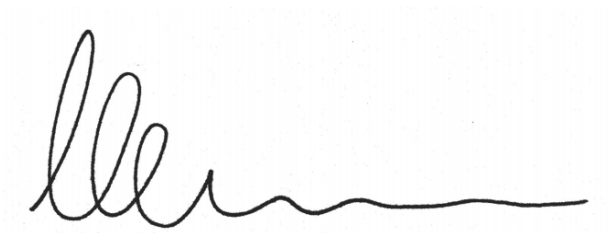
- **Say:** What are some quotes or defining words your subject said?
- **Do:** What actions and behaviors did you notice?
- **Think:** What might your subject be thinking?
- **Feel:** What emotions might your subject be feeling?

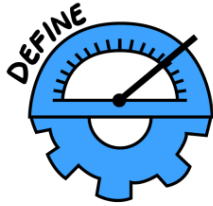


Step 1. Empathy

Goal: Understand the thoughts, emotions, and motivations of your target audience

Notes





Step 2. Define

Goal: Clarify the challenges, build opportunities, and identify constraints

How Might We...

Look at the interview notes and identify the unmet needs that you heard. Rephrase these needs as opportunities for development

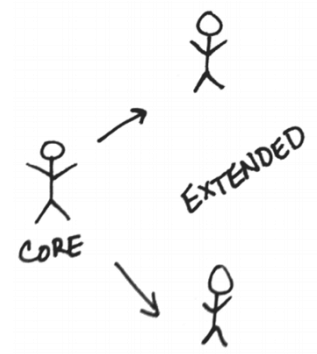
- Narrow enough to tackle a specific problem
- Broad enough to allow for a variety of solutions

Step 2. Define

Goal: Clarify the challenges, build opportunities, and identify constraints

Identifying the Problem

- Major challenges
- Target audiences



Step 2. Define

Goal: Clarify the challenges, build opportunities, and identify constraints

Notes





Step 3. Ideate

Goal: Generate a wide variety of ideas to tackle the problem

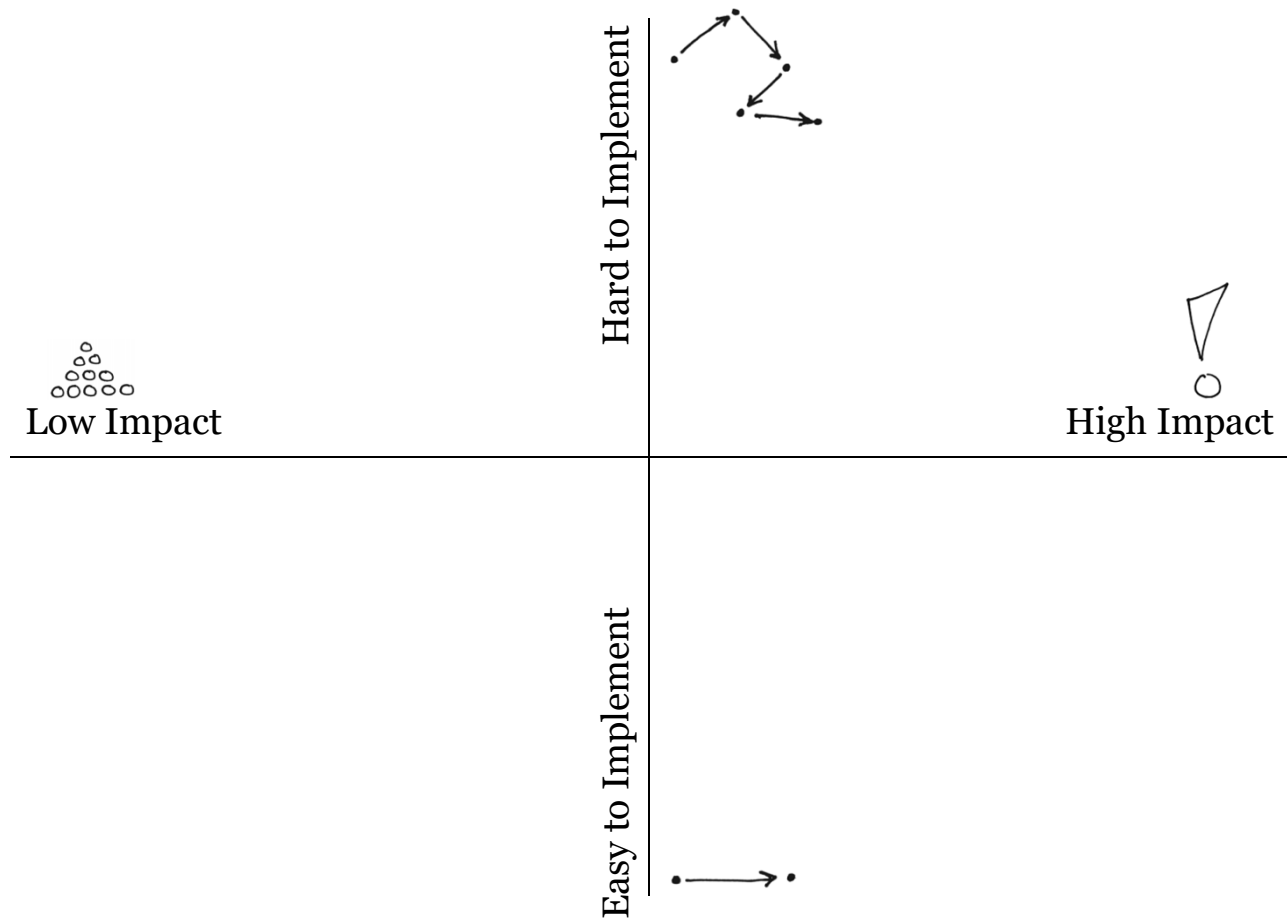
Brainstorming Rules

- One idea at a time
- Go for quantity
- Build on others' ideas
- No judgment
- Encourage wild ideas
- Be visual
- Stay on topic

Step 3. Ideate

Goal: Generate a wide variety of ideas to tackle the problem

Impact/Implementation Map



Narrowing Ideas

- Group ideas by theme
- Refer back to your How Might We statement; which ideas respond to it?

Step 3. Ideate

Goal: Generate a wide variety of ideas to tackle the problem

Game Idea Generator

- Identify Learning Goals
- Generate Game Ideas
- Determine how to assess the effectiveness of the game

Step 3. Ideate

Goal: Generate a wide variety of ideas to tackle the problem

Design Your Game

- **Space:** Where does the game take place?
- **Goal:** What does a player or team need to do to win?
- **Components:** What characters and/or materials are parts of the game?
- **Core Mechanics:** What actions can characters and other components do? Or have done to them?
- **Rules:** What can a player do or not do in the game?

Step 3. Ideate

Goal: Generate a wide variety of ideas to tackle the problem

Sample Components

- Dice
- Spinner
- Chairs
- Music
- Poker chips
- Deck of cards
- Tiles
- Rope
- Ball
- Net
- Blocks
- Timer

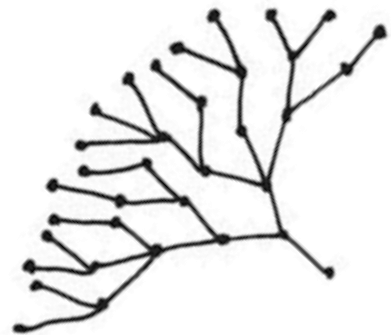
Sample Core Mechanics

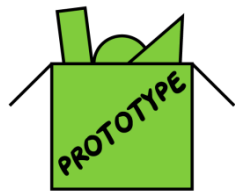
- Race (Chutes and Ladders)
- Jump (Checkers)
- Building (Jenga)
- Capture (Chess)
- Role-Playing (Dungeons and Dragons)
- Pull (Tug-of-war)
- Movement of tokens (Sorry)
- Search and Find (Pokémon Go)
- Tile-laying (Scrabble)
- Spin (Twister)

Step 3. Ideate

Goal: Generate a wide variety of ideas to tackle the problem

Notes





Step 4. Prototype

Goal: Demonstrate the concepts behind your product using simple materials

Types of Prototypes

Rapid Prototype



Storyboard



Paper Prototype



Prototype for Empathy



Role Play



Idea Prototype

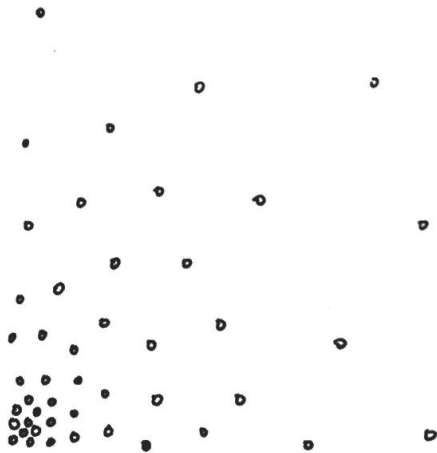


- Recall original needs you are trying to address
- Storyboard to demonstrate high level interaction with your prototype
- Low fidelity paper prototyping is cheap, fast, and powerful

Step 4. Prototype

Goal: Demonstrate the concepts behind your product using simple materials

Notes





Step 5. Test

Goal: Collect feedback from users

How to Test With Users

1. Prepare questions to ask your testers
2. Let your user experience the prototype
3. Have them talk through their experience
4. Actively observe
5. Follow up with questions

Step 5. Test

Goal: Collect feedback from users

Feedback Capture Grid



Positive feedback



Areas for improvement



Questions raised



Ideas generated

Step 5. Test

Goal: Collect feedback from users

Notes





Step 6. Refine

Goal: Implement changes in the next prototype

Editing your prototype

- Recall original needs you are trying to address
 - Consider users' feedback
-

Step 6. Refine

Goal: Implement changes in the next prototype

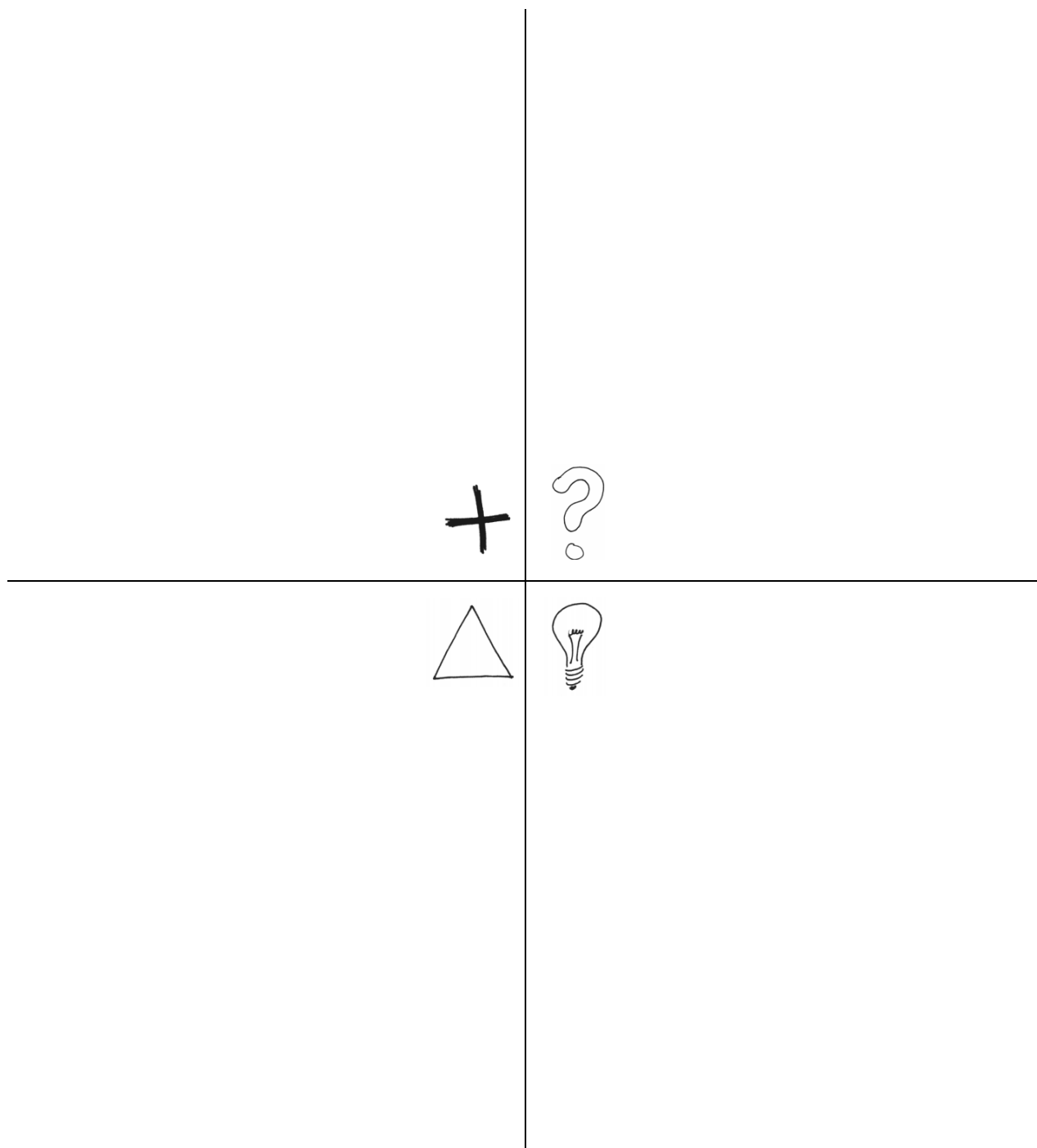
Test #2

1. Let your user experience the prototype
2. Have them talk through their experience
3. Actively observe
4. Follow up with questions

Step 6. Refine

Goal: Implement changes in the next prototype

Feedback Capture Grid



A Feedback Capture Grid diagram consisting of a large square divided into four quadrants by a horizontal and a vertical line. The quadrants contain the following symbols:

- Top-left quadrant: A plus sign (+).
- Top-right quadrant: A question mark (?).
- Bottom-left quadrant: A triangle.
- Bottom-right quadrant: A lightbulb.

Step 6. Refine

Goal: Implement changes in the next prototype

Notes



Design Thinking Reference

Empathy

How to Interview for Empathy

- **Ask open-ended questions.** Yes or no questions limit your subject's responses
- **Ask why.** Try to understand why your subject does or says something
- **Evoke stories.** Stories can give you a sense of the person's emotional experience
- **Pay attention to nonverbal cues.** Body language and emotions can tell you how your subject feels about something
- **Ask question neutrally.** Try to ask unbiased questions that allow your subject to feel comfortable answering truthfully, and never suggest answers to your question
- **Be prepared to record.** If you're interviewing with someone else, someone should be taking notes. If you're interviewing alone, voice record if possible
- **Come prepared with interview questions.**
- **Start with broad questions, then specific questions.** Get a sense of the person's day-to-day life, values, and motivations first
- **Write down exactly what the person says.** You can analyze their words later
- **If possible, interview multiple people.** If not, be aware that the person you are interviewing does not represent your entire audience

Define

You can decide on how your Project Plan looks depending on what your project is. One important aspect of a plan is choosing your project team. Collaboration is an essential piece of the Design Thinking process.

How to Build Your Team

- If you don't already know each other, spend some time to casually talk and share personal skills
- Agree on roles for the Design Thinking process, and write them down
- Define your individual and team goals
- Check in and give feedback

How to Define Success

- Start with your How Might We statement
- Check whether you have been hitting the deadlines you set in your timeline
- Consider the success of pieces of the project as well as the whole
- Identify external measures of success, such as anyone holding you to a particular standard

Ideate

Methods of brainstorming

- **Individual brainstorming:** Generate ideas silently on your own, without being influenced by other team members
- **Draw and Share:** Each team member in turn draws something quickly on their sticky note, explains it to the group, and contributes it to the idea pile
- **Bad Ideas:** Come up with the worst possible ideas to respond to your How Might We statement. Then, consider the advantages of each “bad idea” and use beneficial aspects in new ideas
- **Perspective:** Consider the problem from a different perspective: What might your parent think? A child? The school principal? Someone who doesn’t speak the language?
- **Powers of Ten:** Change the scope of the solution space. What might this look like with one person? With one hundred? What could you do with one million dollars? With ten?

Prototype

Types of prototypes

- **Rapid Prototype:** Rapid prototyping is best when you have few materials and/or little time to complete a prototype. It is a good way to start creating and see results quickly. All of the following types of prototypes can be used as rapid prototypes.
- **Storyboard:** A storyboard lets team members see a visual representation of the intended product and how a user might interact with it.
- **Paper Prototype:** A paper prototype is a sketch or diagram that represents an aspect of the product to test usability.
- **Prototype for Empathy:** Build a prototype that helps you understand your user. This type of prototype does not necessarily test your product's functionality, but tells you more about your user that you might not have learned from the Empathy Interviews. Often this type of prototype takes the form of an activity or game to learn more about the user.
- **Role Play:** One way to consider the users of your product is to step in their shoes. Assign roles to your teammates and determine what part of your prototype you will be testing.
- **Idea Prototype:** An idea prototype fakes functionality of the product in order to test an aspect of the product before building anything. This often involves people simulating automated actions, like handing someone a soda to simulate a vending machine.

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