From Droplet to Deluge: Redesigning Water Conservation

Sunday, March 3, 13
The world is full of BIG problems...

- War
- Natural Disasters
- Education
- Health care
- Water
- Environment
- Homelessness
Design thinkers solve BIG PROBLEMS.
But instead of designing solutions for EVERYONE...
THEY DESIGN SOLUTIONS FOR ONE PERSON.
THAT PERSON IS CALLED THE USER.
Design thinkers are PEOPLE-CENTERED PROBLEM SOLVERS.

**Design Thinking Process**

- EMPATHY
- DEFINE
- IDEATE
- PROTOTYPE
- FEEDBACK
Design Thinking Process
Design Thinkers dive in even when they are not totally sure what will happen next!
A school in Georgia used design thinking to solve a problem...

http://vimeo.com/35233751
Design thinkers are PEOPLE-CENTERED PROBLEM SOLVERS.
You are going to learn the DESIGN THINKING PROCESS.
so you can become

PEOPLE-CENTERED

PROBLEM SOLVERS.
The way you learn the design thinking process is by diving into a DESIGN CHALLENGE.

Your DESIGN CHALLENGE is...
Redesigning Water Conservation AT HOME
Empathy
First, you learn a little about the problem space, in this case, water....

You will be doing LOTS of water activities that will help you solve this design challenge.
As you watch the water videos, take brief notes and make sketches about your reactions and responses.
Water Around Us

http://www.youtube.com/watch?v=HW5eBfZhE4M
Planet Earth

http://www.youtube.com/watch?v=9n2yGQsX2vl&feature=related
http://www.youtube.com/watch?v=4MDLpVHY8LE

Water Conservation Tips
You can’t solve the problem of water conservation at home for every single person in the universe.
But you can solve it for ONE person:

YOUR USER.
Empathy
Design thinkers solve

BIG PROBLEMS.
But instead of designing solutions for EVERYONE...
THEY DESIGN SOLUTIONS FOR ONE PERSON.
THAT PERSON IS CALLED THE USER.
To solve your design challenge, **REDESIGNING WATER CONSERVATION AT HOME**, you need to learn about your user by observation and interviewing.
WHY???
TO

BUILD EMPATHY FOR YOUR USER.
THAT is an important part of becoming a people-centered problem solver—A DESIGN THINKER.
Your goal is to develop empathy for your user, which means putting yourself in their shoes.

You did this when you built your MEMORY BOXES.
What is Empathy?
Empathy is **NOT**

~feeling sorry for someone

~a sense that you have had a similar feeling

~being compassionate
Empathy means...
looking closely....
and listening closely.
and sensing connections that need no words.
Empathy is feeling what someone else feels...
and asking questions about what you THINK you see.
HOW do you develop EMPATHY?
Your toolbox
You have to become a GREAT observer!
Your have to observe with fresh eyes.
How good an observer are you?

Source: http://www.youtube.com/watch?v=ubNP9QNEQLA
Describe what you observe in the following pictures.
Summing Up:

What makes a good observer?
Design thinkers are PEOPLE-CENTERED PROBLEM SOLVERS.
Empathy
Your have to learn how to become a GREAT interviewer.
You learned about interviewing in the good interviewing/bad interviewing activity.

What do you remember?
You are going to use what you learned now as you INTERVIEW YOUR USERS.

Let’s practice by doing some ROLE PLAYING.
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<thead>
<tr>
<th>What Went Well</th>
<th>What Could Be Improved</th>
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</table>

Sunday, March 3, 13
Scenario 1:
A new teacher who is being interviewed by a principal.

Max, a new math teacher, wants to get a job at a San Francisco middle school.

Ms. Robinson, the school principal, wants to make sure Max will do a good job because he has never taught middle school students before.
What Went Well

What Could Be Improved

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Scenario 2:
A high school student who is being interviewed by a mother looking for a summer babysitter.

Mrs. Garcia, wants to find someone to take care of her two sons, ages 5 and 7, for two days a week because she has a job in San Francisco. Her sons are very high energy and she really wants to find the right person for the job.

Kevin, a 16-year-old honors student, wants to make money during the summer to pay for his college tuition. He has three younger sisters and has done some babysitting for them. If he gets this job, it will be his first paying job.
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Create your own scenario and conduct a role play!
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Each team should come up with a list entitled:

“HOW TO BE A GREAT INTERVIEWER!”
GALLERY WALK

DIRECTIONS

EACH PERSON has 3 stars.

Walk around the room and read each group’s list.

Draw a star on YOUR 3 FAVORITE IDEAS.
Empathy
Remember, when you interview you don’t always need to know EXACTLY where you are going- just DIVE IN!
It is time for INTERVIEWS.

As a team, decide on ROLES for the interview.

Interviewers: 2 people should conduct the interview. The interviewers are responsible for coming up with questions, building rapport with the interviewee, and keeping the flow of the interview going.

Time Keeper: 1 person should time the 15 minutes of interviewing and give a 5 minute warning before the time is up.

Recorders: The rest of the group should take notes and draw sketches during the interview. They should make sure to capture exact quotes of what the interviewee is saying.
Here’s some questions to get you started:

1. Tell me about how you use water when you are getting ready for school.

2. Tell me about how you and your family use water when you get home from school and on the weekend. Think of specific examples or stories that happened this week.

3. Tell me where you get your water (sink, bottles, etc.)

4. Why do you think people care about water conservation? What do YOU think about it?
Remember:
Go for stories!
Ask open-ended questions.
Ask why.

You have 15 minutes to complete your interview.
WHAT DO YOU DO WITH YOUR INTERVIEW DATA?
Construct an Empathy Map

Say

Think

Do

Feel

Sunday, March 3, 13
Define

Empathy → Define → Ideate → Prototype → Feedback
Define

EMPATHY → DEFINE ← IDEATE → PROTOTYPE → FEEDBACK

Sunday, March 3, 13
WHAT DO YOU DO WITH YOUR INTERVIEW DATA?

Create a Point of View Statement.
POINT OF VIEW STATEMENT

__________________________ needs a way to ____________________________

(User name) (Verb)

because _____________________________________.

(Surprising Insight)
Neema: New Teacher

http://www.youtube.com/watch?v=ewlHN9SGuv0
(0:47-1:18)
Shanda: First Year Teacher

http://www.youtube.com/watch?v=kcfD0GDKYiA&feature=related

(0:27-1:22)
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BRAINSTORMING
MINDSETS
Build on the ideas of your team!
Go for wild ideas!
Don’t judge other’s ideas... or your own!
Go for quantity!
Listen to others:
only 1 person talks at a time!
Keep your idea short-
it has to fit on a post-it note!

Source: http://www.cdn.net/ev/assets/images/vectors/afbig/blank-sticky-note-clip-art.jpg
Capture **EVERY SINGLE IDEA!**
Neema, a nervous first year teacher, needs a way to feel confident, because he wants to do a good job as a new teacher.

How might we help Neema feel confident?

Neema needs a way to remember his lessons, because he gets confused when everyone is staring at him.

How might we help Neema remember his lessons?

Shanda, a new teacher, needs a way to make her students enjoy learning because she wants them to have as much fun as she did when she was a student.

How might we help Shanda find a way to make learning fun for her students?

Shanda needs a way to feel prepared for her first day of teaching because she is nervous about having her first class of students.

How might we help Shanda feel better prepared for her first day?
HOW TO BRAINSTORM

1. Say your idea.

2. Write your idea on a post it note.

3. Stick it on a wall.
Idea Clustering
Rearrange your post-it notes into clusters by themes.
Idea Selection

Place a check mark next to your 3 favorite ideas.
Idea Sharing

Share your group's top 3 ideas.
Prototype
The Marshmallow Challenge

Your goal is to build the tallest free-standing structure with the materials provided.

20 sticks of spaghetti, one yard of tape, one yard of string, and one marshmallow.
The Marshmallow Challenge Rules

The entire marshmallow needs to be on top.

Use as much or as little of the kit as you want.

You may break up the spaghetti, string or tape.
You have 18 minutes.

When time runs out, you cannot be touching or holding the structure.
The Marshmallow Challenge
One boy's prototyping story:

**Caine's Arcade**
A PROTOTYPE

... is NOT a model.

... does not have to LOOK or BE perfect.

... does have to give your user something to INTERACT with.

... does have to be something that gives your user an experience.
BUILD YOUR PROTOTYPES.
Testing/Feedback

EMPATHY → DEFINE ← IDEATE → PROTOTYPE → FEEDBACK
Capture User Feedback

What worked?  What didn’t?

What could be improved?  What would you do next?
Redesigning Water Conservation AT SCHOOL.
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Design Thinking Process

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The way you learn the design thinking process is by diving into a

DESIGN CHALLENGE.

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You will be doing LOTS of water activities that will help you solve this design challenge.
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http://www.monkeysee.com/play/18518-garden-water-conservation
Water Access

http://www.youtube.com/watch?v=Fvkzjt3b-dU
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Here's some questions to get you started:

1. Tell me about how you use water when you are at school. Think of specific examples or stories that happened this week.

2. Tell me where you get your water you use at school. Describe all the places where there are faucets at school.

3. Why do you think people care about water conservation in schools? What do YOU think about it?
It is time to INTERVIEW YOUR USERS.
WHAT DO YOU DO WITH YOUR INTERVIEW DATA?
Construct an Empathy Map

Say

Think

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Feel
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Point of View Statement

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BRAINSTORMING MINDSETS
Build on the ideas of your team!
Go for wild ideas!
Don’t judge other’s ideas... or your own!
Go for quantity!
Listen to others:
only 1 person talks at a time!
Keep your idea short-it has to fit on a post-it note!
Capture EVERY SINGLE IDEA!
Joanna, a new employee at Google, needs a way to be confident when he is introduced to new people, because he is very shy.

How might we help Neema feel less nervous?

Neema needs a way to remember his lessons, because he gets confused when everyone is staring at him.

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Shanda, a new teacher, needs a way to make her students enjoy learning because she wants them to have as much fun as she did when she was a student.

How might we help Shanda find a way to make learning fun for her students?

Shanda needs a way to feel prepared for her first day of teaching because she is nervous about having her first class of students.

How might we help Shanda feel better prepared for her first day?
HOW MIGHT WE?

Joanna, a new employee at Google, needs a way to feel confident when she is introduced to new people, because she is very shy.

How might we help Joanna feel confident?

Jackson, a Starbucks employee, needs a way to talk to his customers and get their order finished at the same time, because when he doesn’t say anything he feels that he is being rude.

How might we help Jackson get two things done at the same time?

Harper, a working mother, needs a way to remember her 4 children’s after school activities, because she is very busy at work.

How might we help Harper remember her children’s schedules?

Elena, a singer, needs a way to remember the lyrics to her song, because she gets nervous when she is performing.

How might we help Elena remember song lyrics?
1. Say your idea.

2. Write your idea on a post it note.

3. Stick it on a wall.
Idea Clustering

Source: http://www.flickr.com/photos/fresh_squash/5595161871/sizes/z/in/photostream/
Rearrange your post-it notes into themes.
Idea Selection

Place a check mark next to your 3 favorite ideas.
As a team, choose your favorite idea to move forward to prototyping.
Prototype

- Empathy
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A PROTOTYPE

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Capture User Feedback

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Design Thinking Process
Now you are design thinkers who will change the world...