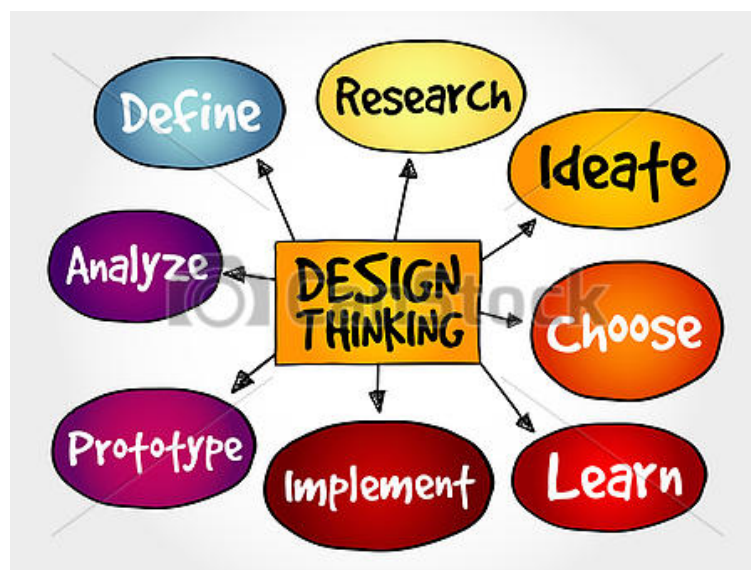


DESIGN THINKING

People-Focused Problem Solving



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STEP 1

IMMERSION



Jump into the problem: *Get on the dance floor!*

Gather as much information as you can

What are people, DOING, SAYING,
THINKING, and FEELING?

Find out "why" by observing and asking open
ended questions

Be a traveler/alien

Immerse at the extremes

| | | | |
|-----------------------|-------------|----------------|-----------------------|
| neat | stuffed | pretty | sporty |
| messy | dirty | | lots of water bottles |
| busy | unorganized | | careless |
| unique | organized | empty | blue |
| decorated | trashy | full | pink |
| fun | | clean | |
| colorful | small | simple | |
| half empty, half full | | lots of papers | |

What did I see?

What did I think?

Fact

Different sections
a lot of blue
crayon box
a lot of objects

Opinion

many books and looseleaf
papers with no where to go
it's not very decorative

useful
a bit messy
messed up
disorganized
functional

neat
fine
neat and organized
bright
artistic
creative

doesn't use the hooks
you could put another shelf on top

OBJECTIVE

Not influenced by personal feelings
or opinions in considering facts

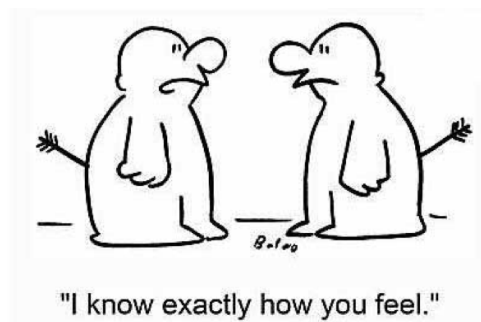


SUBJECTIVE

Based on or influenced
by personal feelings or opinions

EMPATHY

The ability to understand
and share feelings of another

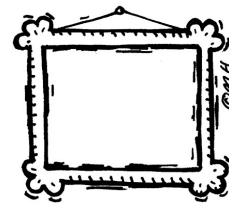


- 1) How did empathy play an important role in the design of the MRI machine?

- 2) Why do you think empathy is part of the design problem solving process?

STEP 2

FRAME



Move from "the dance floor" to "the balcony"

Gain some perspective

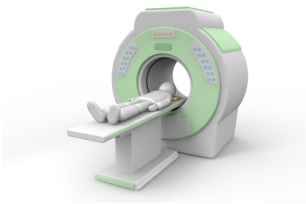
Frame your challenge as an opportunity

"How Might We...?"



Shopping Cart Challenge?

HMW....?

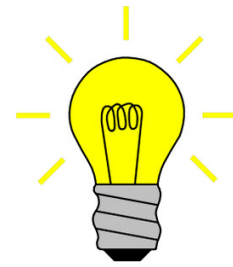


MRI Machine Challenge

HMW....?

STEP 3

IMAGINE



Generate LOTS of solutions to our challenge

Get creative and resourceful

Don't edit!

Cluster and label related ideas

Take something off the table and ask many
"What if....?" questions

Play with constraints: "What if we had 1
million dollars?"

*"Enlighten trial and error, succeeds over
the planning of the lone genius."*

"YES, AND..."

STEP 4

PROTOTYPE



Pick an idea you are passionate about

Create a rapid prototype:
anything that helps experience the experience
you imagined

Just do it!

Build, Test, Learn!

Show, don't tell!

Share prototypes and talk to the people in
your community. This is a continuous
process!

Marshmallow Challenge

Build the Tallest Freestanding Structure

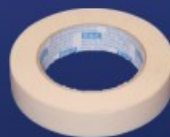


- Teams of Four People
- Eighteen Minutes
- Using the Following Ingredients



20 sticks of spaghetti

+



one yard tape

+



one yard string

+



one marshmallow

THE RULES:



- 1) ***Build the Tallest Freestanding Structure:***
The winning team is the one that has the tallest structure measured from the table top surface to the top of the marshmallow. That means the structure cannot be suspended from a higher structure, like a chair, ceiling or chandelier.
- 2) ***The Entire Marshmallow must be on top:***
The entire marshmallow needs to be on the top of the structure.
Cutting or eating part of the marshmallow disqualifies the team.
- 3) ***Use as Much or as Little of the Kit:***
The team can use as many or as few of the 20 spaghetti sticks, as much or as little of the string or tape.
The team cannot use the paper bag as part of their structure.
- 4) ***Break up the Spaghetti, String or Tape:***
Teams are free to break the spaghetti, cut up the tape and string to create new structures.
- 5) ***The Challenge Lasts 18 minutes:***
Teams cannot hold on to the structure when the time runs out.
Those touching or supporting the structure at the end of the exercise will be disqualified.

TIME FOR REFLECTION:



What was it like working in a group?

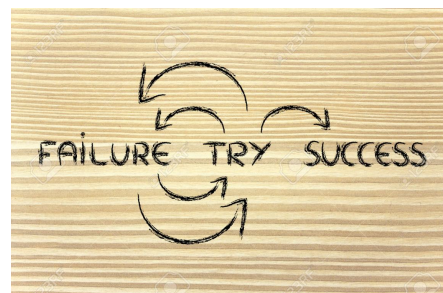
Was there a leader in the group that directed?

What were the strategies used?

What happened when there was failure?

LESSONS LEARNED:

Prototyping Matters!



Find all Hidden Assumptions!



- Adapted from a presentation by Bryna Leider: JEP Yeshiva Day School Veteran's Day Professional Development, November 2016