Introduction to Product Design

Overview

The job of a Product Designer is to understand a problem that people are having and then to design the best possible solution to that problem! To get to the best possible solution, the Product Designers have to first really understand the core problem, and then they have to come up with a bunch of different ways to solve that problem. Only when they have a lot of possibilities can they narrow it down and choose the right one!

Activity Plan

Part 1: Introduce the Product Design Cycle

The product design cycle consists of four steps: Define the Problem -> Develop a Solution -> Implement Plan -> Evaluate. Here are some videos that

Lesson Goals

- Introduce the role of a Product Designer
- Showcase the importance of defining a problem
- Provide strategies for design brainstorming

Materials Needed

- Post-Its
- Paper
- Pencils/Pens/Markers

explain the process:

- The Problem Solving Process with Zipline
- How to Solve Problems Like a Designer
- NASA for Kids: Intro to Engineering

Part 2: Designing for Problems vs. Designing for Solutions

Tell students: *Now we're going to pretend to be a product design team! We've been asked to design a doorbell. Take 2 minutes and draw a design for a doorbell on a Post-It.*

After the 2 minutes, have students put their Post-Its together on the board. Ask the students:

- Do the designs look similar?
- If you had been asked to design a way to know if someone is at the door, would your design have been different? Which of these options do you think would have resulted in a larger number of different ideas? Why?

Tell students: *Now we have another customer who has asked us to design a way for them to stay hydrated throughout the day. Take 2 minutes and draw a design for this problem on a Post-It.*

Encourage students to do multiple drawings if they have more than one idea.

After the 2 minutes, have the students put their Post-Its together on the board (keep this group separate from the Post-Its from the previous step). Ask the students:

- Which group of Post-Its shows more innovative solutions?
- Which group of Post-Its has a larger number of different solutions?
- Why do you think that is?

Tell students: *We can be a lot more creative and innovative when we start with a problem we want to solve rather than with a solution! That's why the first step in the Product Design Cycle is to Define the Problem. Don't be tempted to skip this step; it's the most important!*

Part 3: Thinking Like a Designer

Ask students: How do you think designers find problems? (Possible answers: observations, talking to people, hearing about issues that others have)

Watch a video to hear a designer talk about their problem solving process! Kate Hartman: The art of wearable communication - Hartman is an artist and computer scientist who makes wearable technology that explores social

issues.

As Kate Hartman describes the devices she's created, ask the students:

- What problems do you think Kate Hartman was trying to solve with her devices?
- What do you think of the solutions that she came up with?

Part 4: Brainstorming with Crazy 8s

Now it's your turn to be the designers! Have students brainstorm some problems that they've encountered in their lives recently. These can be social/relationship problems like in Kate Hartman's video or anything else! Write all of the problems on the board.

(Note: Make sure the students are only listing problems. If someone suggests a solution, have them drill down to figure out the problem that solution is attempting to solve, and write the problem on the board.

Pick one of the ideas. Tell students: Now our product design firm has been asked to come up with potential solutions to this problem! We're going to try to come up with as many as we can using a brainstorming exercise called Crazy 8s!

Crazy 8s: Take a piece of paper and fold it in half 3 times, then open it up. You should have 8 sections! Now, take 8 minutes and fill each section of the paper with a different idea to solve the problem. (~1 minute per idea). Drawing is fastest, but if you're not an artist, feel free to describe your solution in words.

Give students 8 minutes to come up with as many ideas as they can! When they're done, have students share their favorite ideas.

Part 5: Wrap-up

This is what product designers do every day! Think of some of the features in apps that you use regularly. What problem do you think the designers were trying to solve? Would you have chosen a different solution? If you were on the design team in charge of those apps, what problem would you want to solve next?