

Blossom's video: Designing for a better world

Teacher's guide

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Introduction:

This hands-on, activity based lesson will introduce the students to design thinking and MIT D-Lab's user centered design process- a framework that develops solutions to problems by involving the user perspective in all steps of the problem-solving process. User centered design is an iterative process in which we try to understand the user, challenge assumptions, and redefine problems to identify alternative strategies and solutions. Students will learn about the four stages of the design cycle, and in the activities they will practice each stage by which they will gain first-hand experience as designers or problem solvers. They will identify problems and come up with creative solutions. Through this lesson students will learn an approach to problem solving. This exercise may or may not inspire the students to pursue engineering or product design, but it will certainly equip them with skills to critically analyze the problems around them and come up with creative, realistic, and useful solutions.

There are no formal prerequisites for this lesson, any high school or advanced middle school student can participate in and benefit from this lesson. This lesson and all the activities in it can be completed in a regular, 60-minute class.

It is useful to have some basic classroom supplies such as paper, pens, pencils, post-its and markers which will come in handy for the in-class activities that include interviewing, brainstorming, and prototyping.

Outline:

Segment #1: I introduce myself and D-Lab and quickly talk about the issue of water in the developing world.

Activity #1: Students will pick one out of three solutions proposed to solve water related problems in the developing world.

Segment #2: We discuss some failed technologies and problems in technology design for the developing world.

Activity #2: Students will critique 5 different technologies designed for the developing world.

Segment #3: Introduction to user centered design and D-Lab's design cycle.

Activity #3: Students will interview each other as part of the first stage of the design cycle-Learn.

Segment #4: Discussion of 2nd stage of the design cycle- Imagine

Activity #4: Students will practice “imagine” by brainstorming solutions to the problems they identified in the previous activity.

Segment #5: Discussion of the 3rd stage of the design process- Create

Activity #5: Students will practice “create” by creating simple prototypes of the solutions they came up in the previous activity.

Segment #6: Discussion of the 4th stage of the design process- Test

Activity #6: Students will practice “test” by testing their prototypes for user feedback and improvement.

Segment #7: Quick overview of the lesson

Activity #7: Students will share their thoughts and experiences of the lesson and activities.

Segment #8: Lesson ends with a guest speaker who talks about how D-Lab is using user centered design to create solutions all over the world.