**Lesson Six: Ideate and Prototype your Solution**

This page should be repeated for each individual lesson that makes up the unit.

**Problem statement:** How do we make our school and community safer by identifying and responding to potential human trafficking situations (for selves and others)? What is the definition of human trafficking and how does it connect to us?

**Learning objectives:**

**SWBAT:** Create a product that will attempt a response to their problem statements.

**Lesson standards**

[CCSS.ELA-LITERACY.SL.9-10.1](http://www.corestandards.org/ELA-Literacy/SL/9-10/1/)

Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

[CCSS.ELA-LITERACY.SL.9-10.1.C](http://www.corestandards.org/ELA-Literacy/SL/9-10/1/c/)

Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

[CCSS.ELA-LITERACY.SL.9-10.1.D](http://www.corestandards.org/ELA-Literacy/SL/9-10/1/d/)

Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

[CCSS.ELA-LITERACY.SL.9-10.4](http://www.corestandards.org/ELA-Literacy/SL/9-10/4/)

Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

CCSS ELA-LITERACY W 9-10 2 Write informative texts to discuss complex ideas.

**Soft skills:**

Communication, Collaboration, Critical Thinking, and Creativity are the cornerstone of the design-thinking process.

**Locally and/or personally relevant for students:**

This lesson allows students to apply a new set of concepts and skills - using material from their own lives.

**Connections to career and educational pathways:**

Students practice how the design thinking process is used in industries from public sector to private sector to nonprofit sector.

**Materials:**

1. Paper and writing utensils or printed copies of Stanford d.school’s Design Thinking Process simulation. **Pages 5-8** One set for each student. <https://static1.squarespace.com/static/57c6b79629687fde090a0fdd/t/58ac88e65016e1b8ebf9636f/1487702250274/Redesign+the+School+Lunch+Experience+.pdf>
2. Inexpensive construction materials. Examples include: pipe-cleaners, cardboard, straws, stickers, markers, cotton balls, construction paper, paperclips.

**Lesson preparation:**

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* **Put physical construction materials some place prominent and accessible in your classroom. This also helps to increase students’ interest and intrigue at the start of class.**

**Time required:**

Either one 70-to 90-minute class period or two 45-to 60-minute class periods.

**Grouping of students for instruction:**

Students may be put into small groups (max 4) for this project with grouping should be based on common self-determined problem statement/focus. This lesson requires creativity and problem-solving but it is not language or reading intensive. Therefore, it is a particularly accessible lesson for ELL students and students with IEPs or 504 plans for reading and writing.

**Procedure:**

**Creating your solution**

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| **Teacher** | **Student** |
| Introduce the lesson by telling students that they will be creating their solution to the problem of human trafficking and our essential problem - How do we make our school and community safer by identifying and responding to potential human trafficking situations (for selves and others)?  Remind students of the “Lunch Experience” Crash Course they did earlier in the unit and that this is the ideate and prototype stage in our design thinking process.  Return “Define the Problem Using the Toyota Method” papers to students. | Students review their individual problem statements. |
| Have each student read their problem statement out loud.  Suggest potential groupings (ex. grouped by students that are focused on raising awareness, changing policy, etc) | Students read problem statements in turns. |
| Put students into small groups.  Instruct students to draw at least 3 ideas of radical (different, surprising, outside-the-box) ways to solve the problem statement.  Tell students that some of their ideas might not work and that’s okay. The goal is **quantity** of ideas.  Encourage students to use visuals and symbols rather than just words.  Set a timer for 4 minutes. | Students brainstorm 5 ways to solve the problem of human trafficking in their communities. |
| Teacher sets a timer for 5 minutes and has students share their ideas with their peer for feedback.  Tell students to resist **defending** their ideas. The goal is to get feedback, not to convince their peer that their idea is the right one.  After 3 minutes, switch. (you may need to adjust time for smaller/larger groups) | Students share their ideas with their peer. Get feedback. Write down peer’s suggestions and reactions. |
| Give students 3 minutes to revise their thinking and come up with one idea or a hybrid of ideas to solve the problem of human trafficking in our communities.  Encourage students to continue using visuals and symbols, but that they can add more words and descriptions during this stage if needed. | Students revise their ideas and draw/write their ideas on paper or the workbook. |
| Tell students, “As a group, create your idea for the best solution.” Set a timer for 5 minutes.  Encourage students to take intriguing aspects from different ideas rather than just picking one as it is.  If a group is struggling or a group member is very attached to one idea, they can break up to smaller groups/pairs/ or choose to work individually. | Students discuss in small groups and come to consensus on a solution they want to create. |
| Share prototype non-example (Maimi Dade <https://drive.google.com/open?id=1JI6kPDfPHgl5zB3NjSzx0bFASzTdujJc> ). Facilitate a discussion about the intention and problematic nature of the intervention (stereotyping, targeting interracial couples, taking images without permission, etc. Students who are multi-racial might have stories of people thinking their parents are not related to them and how that feels. Could also reference (as folks on Twitter did) [Cindy McCain’s experience](https://www.nytimes.com/2019/02/07/us/cindy-mccain-human-trafficking.html) returning from a human trafficking conference and seeing a mother with a toddler of a different race and reporting them to the police (who determined no trafficking was taking place), all of which can begin a discussion of how we can ensure we are addressing the core problem while minimizing new problems brought up by our solutions.) | Students view image and discuss ramifications and potential problems with this marketing. |
| Tell students they have 20-30 minutes (teacher decides based on dynamics of their particular class) to build a physical representation of their solution - a **prototype** - that experts can interact with.  Encourage students to be creative using the materials provided. Craft materials can be used to represent other materials (ex. clay could be molded to create a call box installed on campus) | Students use physical materials to construct a **prototype** of a solution to the problem of human trafficking in our communities. |
| Gallery Walk-  Give students 4 minutes to show the class their prototype and get feedback.  Encourage students to **resist defending** their prototype. Remind them that they only spent 20-30 minutes on it so it’s good but it’s not *that* good! Instead, encourage students to use the prototype to get lots of feedback from their peer in the interest of creating an even better solution to their problem in the future.  After 4 minutes, switch to the next group/prototype. | Groups share their prototype with the class. Students write down their feedback.  After 4 minutes, switch. |
| Tell students to silently reflect on what they heard from the class.  After reflection, instruct students to come up with two additional aspects to prototype or new ideas.  2-4 minutes. | Students reflect and then write down additional aspects of their prototype to test. |
| Give students time to revise prototypes based on feedback 10-15 minutes | Students revise prototypes and prepare them for expert viewing. |
| Instruct students to create explanatory statements to accompany the prototype. Statements should give whatever context is needed to understand prototype: how it is to be used, how it is expected to work, etc. 15 minutes  Prompts:   * This prototype is called… * People in trafficking situations use it by… * People who want to report trafficking situations use it by… * Instances/times/places where we think this will be especially useful are... * Our problem statement focused on… * This addresses the problem in our statement by… * Some features we think will be really useful are… * Some things we want feedback on are... | Students create explanatory statements. |

**Accommodations:**

Define key vocabulary words and concepts, especially for ELL students: Prototype, Redesign,.

Volume control: This is a lesson that can get loud quickly. For students with sound sensitivity or hearing impairments, consider placement within the classroom and/or implement a volume guide for students (ex: “For this part, keep the volume to level 2 out of 4”).

**Extensions:** Describe possible ways to extend the lessons, if time allows:

* After any stage, the teacher may facilitate a full class discussion/share-out.
* Have students do a longer gallery walk to look at their classmates’ creations.
* Give students a timed opportunity to redesign their prototype based on additional feedback from peers.

**Assessment:**

Students’ individual work packets help teacher identify students’ understanding at each stage of the design-thinking process.

Final class discussion assesses class’s understanding of the challenges and sticking points in the design thinking process.

Final product and explanatory statement assesses students’ understanding of the goals of their anti-human trafficking project.