**Lesson Five: Problem Definition Lesson**

**Problem statement:** How do we make our school and community safer by identifying and responding to potential human trafficking situations (for selves and others)? How do we understand the problems, identify root causes, and determine who can influence these root causes to solve the problems?

**Learning objectives:**

**SWBAT:**

* Analyze their Empathize reading and analysis to identify specific problems in human trafficking in King County.
* Generate real problem statements.
* Define their desired end goal for each problem statement.
* Identify root causes of each problem statement.
* Begin identifying who or what can influence the root causes.

**Lesson standards (NGSS, CCSS, CTE):**

[CCSS.ELA-LITERACY.RL.9-10.2](http://www.corestandards.org/ELA-Literacy/RL/9-10/2/)

Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

[CCSS.ELA-LITERACY.RI.9-10.2](http://www.corestandards.org/ELA-Literacy/RI/9-10/2/)

Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.

[CCSS.ELA-LITERACY.RI.9-10.3](http://www.corestandards.org/ELA-Literacy/RI/9-10/3/)

Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.

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

Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

**Soft skills:**

This lesson requires students to use all four 21st century skills: Critical thinking, creativity, communication, and – most importantly for this lesson – collaboration.

**Connections to career and educational pathways:**

This lesson is designed after the Toyota Method’s Problem-Solving process, sometimes referred to as the 8-Step Process. The method is used by myriad industries and organizations in our region in the public, private, and nonprofit sectors.

**Materials:**

**1)** **A poster paper for each group and markers. Used for Step 1.**

**Teacher should either draw a grid on the posters ahead of time or model for students:**

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| --- | --- | --- | --- |
| List all the problems you identified with human trafficking in King County as a result of the Empathize stage | How did you discover the problem? | When did the problem start and how long has this problem been going on? | Is there enough data available to contain the problem? |
| *A problem is…* |  |  |  |
| *A problem is…* |  |  |  |
| *A problem is…* |  |  |  |
| *A problem is…* |  |  |  |
| PROBLEM STATEMENT #1 |  | PROBLEM STATEMENT #2 |  |

**2)** **Either** [**electronic access to this Student Handout**](https://docs.google.com/document/d/1t1yQUDZPOLP13LreSos72gFQh6TcEvGjnwPe7zTnPGk/edit?usp=sharing) **or printed copies.**

**Lesson preparation:**

Empathize Stage must be completed before students can move on to the Problem Definition lesson. Teacher will assess whether or not students are ready to move on to the rest of this lesson after a formative assessment of their completed poster. For example, if students cannot articulate when a problem started and how they discovered the problem, then they will likely need to go back and (re)read the sources in the Empathize stage.

**Time required:** 150-210 minutes; three class periods.

**Grouping of students for instruction:**

Students will work in their small groups for this lesson.

**What is the instruction? Consider the PBL Procedure that is being addressed here:** The purpose of this lesson is for students to **understand and explore the problem.**

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| **Teacher** | **Student** |
| Teacher puts Entry Task on the board: “Based on what you learned from the Empathize stage, what is THE most significant problem related to human trafficking in King County?” | Students respond to the Entry Task.    Depending on your classroom culture, teacher either checks off individual student work, facilitates a short group discussion, or a combination of both. |
| Passes out one poster and markers to each group. Instructs students to take out their Empathize stage sources and analysis. | Sit with their project groups.  Open up their Empathize stage resources and analysis. |
| Teacher explains that they will be using the Toyota Method to clarify and define problems in human trafficking in King County.    [Show graphic of Toyota Method.](https://docs.google.com/presentation/d/1GkdDtAPIVl_5EFQd323cK3-A5gEjCtM0PNnYozD7AvI/edit?usp=sharing)        Explain that another way people solve problems in the workforce is through the Root Cause Analysis Process. Tell students that the next step for their project is to use a modified version of the Toyota Method and the Root Cause Analysis Process.    You may even want to tell students that people spend thousands and thousands of dollars to get trained in how to use the Toyota Method and/or Root Cause Analysis Process (TRUE: Being trained in these methods is part of Program Management certification and MBA programs across the country and around the world) and you’re going to provide them with an opportunity to learn and experience the process for free! | Students look at graphic of Toyota Method. Share out observations. |
| Teacher asks students to take out their Lunchtime Redesign work from **Lesson 2**. Instructs students to flip to the Problem Statement page.    Teacher asks: “When you redesigned the lunchtime experience for your peer, how important was it to get the problem statement right?”    Teacher asks: “If you didn’t have a good problem statement, then were you able to successfully design a solution to the problem? Were you able to successfully redesign the lunchtime experience for your classmate?” (Intentional use of closed questioning).    Teacher explains the importance of the Problem Definition stage of this process. This is also a great opportunity for the teacher to share a personal story about problem solving in the workforce – either in another industry or in the craft of teaching – when not having a clear problem statement led to flawed or incomplete solutions. | Students take out their Lunchtime Redesign work from **Lesson 2**. Open up to the Problem Statement page.      Students will likely respond with some version of, “very important!” or “it was difficult to design a solution without a good problem statement.” |
| Teacher asks students to read through the questions on their poster.     * What is the problem? / What are the problems? * How did you discover the problem? * When did the problem start and how long has this problem been going on? * Is there enough data available to contain the problem?     Asks for any clarifying questions about what these questions mean. | Students either read the questions to themselves or one or two students read the questions out loud as a class, depending on your classroom culture.    Students ask clarifying questions. |
| Teacher instructs students that they have 20 minutes to work in their groups to complete the poster. | Students work together to identify problems and respond to the corresponding questions. |
| Tell students to let you know when they think they’re done.    Teacher looks over students’ work and lets students know if they are ready to move on to the next step, which is writing two Problem Statements. | Students show their work and explain their thinking to the teacher to get feedback and the green light – or not – to move to the next step of writing two Problem Statements.    NOTE: If students do not demonstrate sufficient depth of understanding of the problems, then they will review and revise their Empathize stage reading and analysis. |
| Tell students they need to determine which are the TWO most significant problems and write them as Problem Statements:  Format for a problem statement is: “\_\_\_\_\_\_ needs a way to \_\_\_\_\_\_ because/but/surprisingly \_\_\_\_\_\_\_\_\_.”  Emphasize the importance of ensuring that the problem is contained - i.e. make sure students are identifying very specific and tactical problems, rather than broad or general issues.    Remind students to use their "Redesign the Lunchtime Experience" Problem Statement to help them understand what makes for a good vs. not good problem statement. | Students work together to identify and write down two unique problem statements on their group’s poster. |
| Teacher instructs students to share their problem statements with the class. Solicit peer feedback:   * Is there real data and evidence to back up the existence of this problem? * Are these problems **specific and tactical**, rather than broad and general? | Students share out their work and get peer feedback.    Students will likely need to make revisions or modifications to their problem statement as a result of peer feedback. |
| ***Depending on class length, this is likely where you will end this day***.    Exit Task: Explain why addressing these problem statements is **important** for King County. **Be specific**. | Students complete exit task. |
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| **Entry Task:** Look over your Problem Statements from yesterday. **What additional resources do you need in order to FULLY UNDERSTAND these problems?** | Students sit with their groups and complete their Entry Task. Share out answers with their group. |
| Teacher solicits ideas from students’ Entry tasks. | Students share out ideas from the Entry task. |
| [Teacher directs students to take out (if paper copy) or open (if electronic) their copy of the Student Handout](https://docs.google.com/document/d/1t1yQUDZPOLP13LreSos72gFQh6TcEvGjnwPe7zTnPGk/edit?usp=sharing) and directs their attention to **Part 2 of Step 2.**  **Step 2 is Clarifying the Problems.**  **Part 2 of Clarifying the Problems is conducting additional research about the Problem Statements.**    Teacher may encourage students to divide up the work. For example, if students are in groups of four, two students might do additional research about Problem Statement #1 and the other two might do research about Problem Statement #2.    \*NOTE: Students and groups will likely NOT be synced up as a class during this part of the project. This is because students will have different levels of prior knowledge about their problem statements and some problem statements will require more complicated or in-depth research than others. This is the nature of Problem-Based Learning, so don’t worry too much about everyone being finished at the same time. | [Students take out their work.](https://docs.google.com/document/d/1t1yQUDZPOLP13LreSos72gFQh6TcEvGjnwPe7zTnPGk/edit?usp=sharing)      Students review Step 2 of Part 2.            Students decide who will tackle research for which Problem Statement in their group.          Students conduct independent or group research. Students should find at least four new sources for each problem statement, cite the source in MLA format, and summarize key information that each source gives them about their problem statement. |
| Teacher assesses students’ completion of this research phase.    Teacher checks in with students to read through their understanding of each new source and assesses their understanding verbally. | Once students have found at least eight additional sources that give them information about their specific problem statements, they should show their work to their teacher to determine if they are ready to proceed to Step 3: Define the Goals. |
| Teacher assesses students’ work to determine if they have a comprehensive understanding of the context for each of their problem statements.        Once students have the green light to move to Step 3: Define the Goals, teacher should direct students to work in their groups to answer the following questions:     * **What is the end goal or desired future state?** For example, how will the experience for victims of human trafficking in King County change as a result of addressing this problem? * What will you accomplish if you fix this problem? * What is the desired timeline for solving this problem?     Teacher should encourage students to take their time thinking about these questions. Depending on your classroom culture, it may be helpful for the teacher to instruct students to set a timer for **+/-7 minutes** where they discuss the questions and brainstorm ideas BEFORE writing anything down. | Students present their research to their teacher and discuss whether they have a comprehensive understanding of the context for each of their problem statements.      Once they get the green light from their teacher, students will begin Step 3: Define the Goals. Students should [use their Student Handout](https://docs.google.com/document/d/1t1yQUDZPOLP13LreSos72gFQh6TcEvGjnwPe7zTnPGk/edit?usp=sharing) to record their thinking.     * **What is the end goal or desired future state?** For example, how will the experience for victims of human trafficking in King County change as a result of addressing this problem? * What will you accomplish if you fix this problem? * What is the desired timeline for solving this problem?     Students should take meaningful time think about these questions. Depending on your classroom culture, it may be helpful for the teacher to instruct students to set a timer for **+/-7 minutes** where they discuss the questions and brainstorm ideas BEFORE writing anything down. |
| ***Depending on class length, this is likely where you will end this day***.    Exit Task: Revisit and update your exit task from yesterday. Why is addressing these problem statements **important** for King County? **Be specific**. | Students complete exit task. |
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| Entry Task: Is your group on Step 2 or Step 3?    Teacher solicits answers and uses this information to determine which groups to prioritize meeting with during class. | Students answer Entry Task and share responses with the class. |
| Teacher instructs students to [open their Student Handout](https://docs.google.com/document/d/1t1yQUDZPOLP13LreSos72gFQh6TcEvGjnwPe7zTnPGk/edit?usp=sharing) and goes over Step 3: Define the Goals with the full class.        Teacher asks groups that are ready for Step 4: Identify Root Causes to congregate together in the room to get an explanation from the teacher about Step 4. | Students who have yet to begin Step 3 or are part-way through Step 3 work on that step.        Students ready for Step 4: Identify Root Causes, gather together to go over Step 4 with their teacher. |
| Teacher solicits ideas about the definition of a “root cause” and examples of root causes from students’ everyday lives.    Teacher has a group share out one of their Problem Statements and asks all students to brainstorm possible root causes of this problem.      Teacher asks students, “What data or evidence do you have to **validate** that you have identified the **real root cause(s)** of this Problem Statement?” Teacher facilitates discussion      Teacher asks students, “Who or what can do something to address this root cause?”. Teacher facilitates discussion. | Students share ideas about what a “root cause” is.        Students brainstorm possible root causes of one of the Problem Statements.        Students discuss.            Students discuss. |
| Teacher instructs students to look at [Step 4: Identify Root Causes.](https://docs.google.com/document/d/1t1yQUDZPOLP13LreSos72gFQh6TcEvGjnwPe7zTnPGk/edit?usp=sharing)    Teacher walks students through the questions they will answer for each of their Problem Statements:     * What are all the possible causes of this problem? * What are the most significant and most likely **root causes** of this problem? * What information or data is there to validate the root cause?   NOTE: When this lesson was taught by WABS teachers, this was an opportunity for students who wanted to try and qualify for an “A” to do so. For an “A” you will need to do  ADDITIONAL INDEPENDENT RESEARCH. Include an explanation of what sources you consulted as well as links to the sources.   * What individuals and institutions can influence the root causes?   NOTE: Instruct students to **be specific**. Tell students, “Don't just say, ‘The government can influence root causes’ or ‘School can influence root causes’. What specific governmental entity are you talking about? In what concrete and realistic ways can school influence the root causes?” | Students read through Step 4: Identify Root Causes.    Students ask clarifying questions. |
| Teacher instructs students to begin working on Step 4 with their groups. | Students work on Step 4 with their groups, consulting additional resources as needed. |
| Once the groups who were still on Step 3 are complete, teacher gives them the same overview and explanation of Step 4.    Teacher instructs students to submit their completed Student Handout when done. |  |
| Exit Task: Find another group that has identified the same or a similar root cause as you have for one of your Problem Statements. | Students walk around the room to find other groups who have identified the same or similar root causes as them.    Students compare and contrast their work with their peers’ work.  Students share out their observations with their group. |
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**Accommodations:** Depending on the needs of your students, you may adapt and modify the Student Handout. For example: You can change the number of required outside sources, provide resources in students’ home languages, and/or include examples for each of the Steps.

**Extensions:** The assessment provides additional extensions for students depending on what grade they want to qualify for. In addition, teacher can add in more group discussions and/or collaborations between groups, particularly during Steps 3 and 4.

**Assessment:**

Formative Assessment in the Lessons:

- Checking poster after Step 1 to determine if students can move to Step 2.

- Each additional Step is updated by students in the [Student Handout](https://docs.google.com/document/d/1t1yQUDZPOLP13LreSos72gFQh6TcEvGjnwPe7zTnPGk/edit?usp=sharing). Teacher should provide formative feedback along the way.

Summative Assessment for the Unit:

- Teacher assesses completed Student Handout based on the following criteria:

**To meet standard (85%):**

1. **Work collaboratively to complete all parts of this document**
2. **Step 2:** Find and analyze FOUR new sources for each of your Problem Statements
3. **Step 3:** Desired future state is clearly articulated and the significance of fixing this problem and a timeline are included.
4. **Step 4:** Root causes are identified and analyzed.

**To qualify for an A:**

1. **Work collaboratively to complete all parts of this document**
2. **Step 2:** Go above and beyond the minimum required number of sources
3. **Step 3:** Significance of the problem demonstrates depth of thought and a deep understanding of the context surrounding the problem statements. Timeline is realistic and demonstrates critical thinking.

**Step 4:** Students conduct additional research to identify root causes.

**References/Resources:**

[Student Handout](https://docs.google.com/document/d/1t1yQUDZPOLP13LreSos72gFQh6TcEvGjnwPe7zTnPGk/edit?usp=sharing) Created by WABS teachers.

The Toyota Method and Root Cause Analysis were adapted from conversations with King County leadership, resources from WABS’ participant’s Certificate in Entrepreneurship and Human-Centered Design from Stanford’s Business School and d.school, and WABS’ teachers’ lived experiences as project managers and team facilitators.