Data and Voice: Teaching Empathy and Justice in Digital Humanities

Lesson Plan

Overview

This series of lessons was designed to introduce students to analyzing, interpreting, and thinking critically about raw data within the context of a unit-long study of the institution of slavery in the Americas. The learning goals included the development of data skills and dispositions, but equally important were our humanities throughlines and relevant unit questions. The students work to create data visualizations to tell a story that centers the experiences of enslaved people.

Grade: 8
Class: Humanities

Note: These lessons were developed in a class that had spent time building critical analysis skills and questioning historical and modern sources to transcend a single historical narrative. This lesson series took place near the end of a unit on the Transatlantic Slave Trade. Students had read **Stamped** *and the classroom undertook an anti-racist approach to history.* Project Zero *practices were already an established framework in both this classroom and the school as a whole.*

Suggested Theme: 6 classes (60 minute blocks)

Learning Goals

Humanities Questions:
- How do we center Black experiences in our understanding of slavery?
- How do we understand and interpret history - both generally and as it applies to this unit?
- How does the history of slavery in the Americas influence the present? How does the present influence our understanding of the past?
- How did the various African and African-descent populations enduring slavery survive the ordeal? How did slaves resist slavery? To what extent can fugitive slave ads (primary sources) help us answer this question? Why or why not?

Data Fluency Skills (based on the Agency by Design Framework):
- *Exploring Complexity*: I can write a database schema that demonstrates thoughtful and accurate interpretation of information; I can express the underlying perspectives, assumptions, and values of a database schema.
- *Finding Opportunity:* I can use data effectively and ethically to create a meaningful narrative.

Data Fluency Dispositions (based on the IB Learner Profile):
- *Open-minded*: I evaluate data to identify and critique gaps in representation.
- *Caring:* I appreciate my responsibility when using data about other people and show respect to places, communities, and human beings.

Materials and Resources

1. Enslaved.org
2. Lesson Slides
3. Fugitive Slave AdData Project Slides for Lesson Plan w/ students - Enslaved.org
4. Raw Data Sets - *Please note that these data sets include dehumanizing descriptions of enslaved people and traumatic history. Please take care in preparing and supporting students (and yourself) as you interact with them. Suggestions for lesson pacing and duration below may vary greatly depending on how teachers approach the introduction of this topic and material based on his/her/their own classroom culture and teaching context. A useful resource for preparing students to interact with the data set is "Untitled", by Beth Strano.*
   a. Data Set Sandbox (Full)
   b. Data Set for Take Apart
   c. Data Set for Take Apart (PDF for printing)
   d. Data Set Sandbox for Redesign
5. Graphic Organizer: Data Models
6. My Data Model
7. Glue, Scissors, Markers, Large Paper

8. Data Storytelling Padlet *(screenshot below)*:
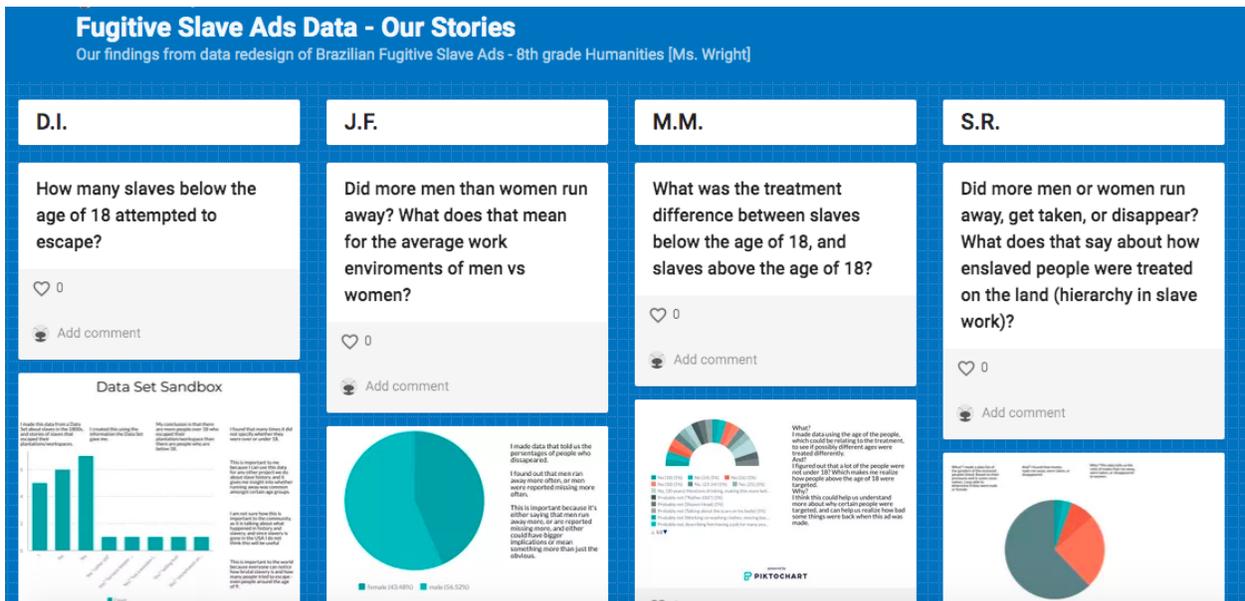
PZ Routines, Tools and Maker Moves:
- See-Think-Wonder
- Take Apart
- Sort, Connect (Adapted)
- Voice and Choice
- Imagine If
- 3 Ys

Learning Sequence

Day 1: What is data? How do we see the data in a document? (Slides 1-4)

In this introductory lesson, students will first examine an original fugitive slave ad (in context of the full page of the newspaper) using the See-Think-Wonder routine. The teacher should record their thinking and observations. At the conclusion of the routine, discuss the question: What part of this document is data? What makes you say that?

Second, teachers will introduce the Data Set for Take Apart (print out this PDF version for each student). As a group, students look closely at this document and draw comparisons between the data set and the fugitive slave ad. Ask students what connections they see using the structure of: *3 words, 2 questions, 1 connection*.

With the time remaining, have students further analyze the document by engaging in an adapted Take Apart and Sort Connect of the data set to answer the questions: how would you organize this data? What is important in this data? Each student or group of students will need a large

sheet of paper, a pen/pencil/markers, scissors, and glue. This lesson supports student understanding and analysis of the data and its structure in a concrete way.

Day 2: Introduction to Metadata and Data Models (Slides 5-11)
Note: If students were not able to share and/or discuss their take apart/sort/connect, you may wish to begin today with a short Gallery Walk. Students can comment with Post-its, or discuss as a group using "Appreciate, Wonder, Suggest."

In this lesson, the teacher should introduce students (if they are not familiar with the term) to the concept and definition of *metadata*. After this brief introduction (see lesson slides), students should circle the underlying *metadata* they see on the Data Sandbox (print out) from Day 1. This activity builds the foundational vocabulary and skills of identifying and describing these structural elements of a database.

The remainder of Day 2 should be an analysis of the following questions: "How do we show what is important? How do we know what is missing?" using the Voice and Choice protocol. This activity connects student analysis of the database structure to questions of design, including perspective, assumptions, and values.

Day 3&4: Data Model Redesign (Slides 12-21)
In this lesson, the teacher should introduce students to the concept and definitions of *data model* and *data types*. After this brief introduction (see lesson slides), the whole class should complete the first table in the Data Models Graphic Organizer together. Independently, with the Sample Birth Certificate in front of them, students should complete the second table in the Data Models Graphic Organizer.

Next, students should make a model of the Data Sandbox using the My Data Model graphic organizer. After students have completed this, invite them to use the Imagine If thinking routine as a whole class with the prompt: "Imagine if this data was more whole (complete, just, human)...What would it look like? What would be included?" Document ideas as the discussion unfolds. Individually, students should redesign the data model by adding to the My Data Model graphic organizer the attributes that would address their new vision for the data.

Students will pick one attribute they would like to explore from their My Data Model graphic organizer. With their own copy of the Data Set Sandbox for Redesign, they will individually apply their new attribute as a new column in the spreadsheet. The teacher will introduce strategies for populating this data based on the available data: *extract, impute*, or *define*. Students will independently develop a strategy they can justify and then populate the data in their new column, building their redesigned *data set*.

Day 5: Reflection (Slides 22-26)

The purpose of today's lesson is to present and discuss students' redesign of the data model. Students should briefly share their goal, their process, and any challenges they encountered. Teachers can have other students give feedback with "Appreciate, Wonder, Suggest" or the Ladder of Feedback.

The teacher should hold a structured discussion related to the questions on slides 24, 25, and 26. The questions you choose to focus on will depend on your specific learning outcomes, students' redesigns, or the questions students raise during the lessons up to this point.

After the discussion (or for homework), challenge students to add a boolean attribute to his/her/their sandbox and populate it.

Day 6: Data Story (Slides 27-40)

This optional lesson is an opportunity for students to connect to strategies for data storytelling by constructing and interpreting data visualizations. Students should begin by revisiting their redesigned *data model* and *data set.* The teacher should introduce *data storytelling* as a strategy to use data to communicate meaning (see lesson slides).

In the platform of your choice (Google Sheets, Excel, Piktochart, etc.) students should create a graph that explains their redesigned data set. One entry point for students who may be less familiar with creating digital graphs is to generate a summary of their boolean attribute. Students should add labels and explanatory text using the 3 Ys.

Next, students should share their data visualization (posting on a Padlet, etc.), and should be invited to Chalk Talk using the prompts "What do you notice?" and "What do you wonder?".

Reflection and Lessons Learned

- Introducing the primary sources in the introductory lesson gives students the opportunity to develop their own initial interpretations and seek understanding from the sources before building context. Additional reading/research should be provided throughout the lessons to support additional contextual knowledge (of slavery in Brazil at this time period, fugtive slave laws, etc).
- Introducing the raw data in the introductory lesson gives students a strong entry point into the data and supports the development of explicit connections between historical data and primary sources. Additional reading/research should be provided to support additional contextual knowledge of data ethics and inclusion (consider the enslaved.org Statement of Ethics).
- In group discussions, the human nature of the data and historical records enrich the

conversation and support students in making connections with their modern experiences. Facilitation should strive to support and deepen these explorations and question our ethical decision-making with data and how our *present* influences our understanding of the *past*.

- Building the vocabulary of data fluency in this series of lessons explicitly supports student's capacity to engage deeply with the data itself and expressively describe their analysis and interpretations. Teachers were surprised at how much depth could be accessed in student thinking and the high level of student engagement when a small set of data concepts were mastered.
- Students met the Data Fluency Skills and Dispositions goals, especially related to *Exploring Complexity*. The lesson series introduced the ideas related to *Finding Opportunity*, but possible extensions could strengthen the students' ability to independently apply these skills.
- Students thoroughly explored the Humanities Questions.

Extensions

Many possible extensions that could be applied based upon time and learning goals:
- Students use the Making Meaning thinking routine to explore conceptual complexities of data, metadata, historical record, etc.
- Students compare their own data visualizations with the data visualizations from the enslaved.org website
- Students generate an image of their data visualization and share on Twitter (be sure to consult your school's policy for social media use) using the hashtag **#behindthedata** and the url **enslaved.org**
- Students compare their own data findings with findings from a different sample of the full data set and build explanations for any differences or similarities.
- Students compare similar historical records and/or data from different locations or time periods and build explanations for any differences or similarities.
- Students debate or critique the claims of their peers based upon their redesigned data.
- Students use peer feedback to iterate their data models and revise/update their data and analysis. Students document and build explanations of their process.

Lesson Creators

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