Visualizing The Pandemic: An Exploration in Descriptive Statistics and Personal Stories

Unit plan by Susan Zoë Greenwald

Day One: underreported stories and how visuals of data help tell the story	
Objectives	After this lesson, students will be able to… ● Define the term "underreported story" and explain the importance of underreported stories in journalism. ● Explain how and why journalists use descriptive statistics to help tell an underreported story. ● Explain the importance of using and citing accurate data and descriptive statistics in journalism.
Resource(s)	Resources for all lessons are linked here.
Time Required	60 minutes
Warm-up	1. Have students compare and contrast data graphics from news articles here (slide 1). 2. Discuss as a class: ○ What is similar about these data graphics? ○ What stories do they focus on? ○ How do we know where the data came from to create these graphics? ○ What is different between these graphics? ○ What types of graphics do you see? How do they help tell the story they are connected to? 3. Key items for students to find when analyzing graphics: ○ all have a source cited ○ all include a scale ○ all help to tell the story of the article ○ and all are colorful (eye catching)
Introducing the Lesson (themes, background, context, significance)	Play this video to introduce the concept of an underreported story. Have students reflect in small groups to answer the following questions: 1. According to the speakers in the video, what is an underreported story? 2. How are underreported news stories different from other news stories? Reference examples from the video in your description. 3. Why would a journalist include descriptive statistics in words / or in visuals in an underreported story? Questions 1 and 2 are from the Pulitzer Center lesson, "How to find and analyze underreported stories: Critical thinking, text analysis

	and writing."](#)
In-class Activity: including discussion questions and comprehension questions for resource(s) and performance task(s):	Have students read the Pulitzer Center article "As Union Leaders Call for Slower Line Speeds, COVID-19 Spreads in Mississippi Poultry Plants." Next, have students answer the following on a Google Doc or Slide (they may do this in small groups or individually) and discuss: 1. Give a summary of the article. 2. Give three examples of descriptive statistics in this reading. 3. What is the scientific source of the data in the reading? (How do you know the data is not made up?) 4. How do the graphs in the story help inform the reader? What are the SOCS of the data? (Spread, Outlier, Center and Shape of the data). 5. Why do you think the author included descriptive statistics in their story? 6. Discuss the impact of including descriptive statistics in this story. Teacher tip: Review the concept of descriptive statistics with your students by checking out this resource: [https://www.statology.org/descriptive-inferential-statistics/]. 7. What is the importance of using accurate data and citing sources in this story?
Evaluation	Using a Google Form (or similar survey tool) have the students answer: 1. Why would the inclusion of descriptive statistics in a news article help tell an underreported story? 2. Evaluate the source of the "Access To The Internet" data visual from the Pulitzer Center article "Poor, Vulnerable, PWDs Left Behind as States Adopt Online Teaching." a. Where is the data from? b. Why is the source important for the author to include in her article?
Extension	Invite a Pulitzer journalist to discuss the impact of descriptive statistics in underreported stories in journalism. Contact education@pulitzercenter.org to request a visit with a Pulitzer Center-supported journalist!

Day Two: An exploration of a variety of mediums of underreported stories & descriptive statistics in stories	
Objectives	After this lesson, students will be able to…

	• Describe how underreported stories are told in mediums other than written articles such as videos and podcasts. • Describe how a personal story helps readers better understand COVID-19 data. • Find descriptive statistics in written articles and decide upon preferred visualizations and graphics to display statistics.
Resource(s)	Resources for all lessons are linked here.
Time Required	60 minutes
Warm-up	Give students time to skim and review the first data visualization in this Pulitzer Center article, under "The Distance Between:" Inequality and COVID-19: Distances To Sentinel Treatment Centers in Venezuela Have students answer the following warm-up questions: 1. What does the visual show? 2. Why would the author include this in their article? Would the story be as impactful without the visual? 3. How was the data gathered? How do we know the data is true? 4. What is the SOCS of the data: spread, outliers, center and shape? 5. Why do you think this in an underreported story?
Introducing the Lesson (themes, background, context, significance)	Show 3 minutes of the following to illustrate how underreported stories can be in visual form or audio form, too: • Share a clip from "Video Narrative: RESPONSE I" from The COVID-19 Writers Project. • Share a clip from "COVID-19 Homeless Work-Arounds Turn Into Silver Linings" from COVID's Invisible Victims. Have the students discuss the impact of reading, viewing or listening to a visual story about COVID-19, and why having such a story helps make the statistics of underreported stories about COVID-19 more impactful.
In-class Activity: including discussion questions and comprehension questions for resource(s)	If time, (this may have to be completed for homework), have students read the article "Philippine Fishermen Stranded at Sea by Pandemic: 'We Think About Jumping Overboard.'" As a group, have students: 1. Summarize the article. 2. Create a Jamboard as a class with all descriptive statistics listed. They should come up with a list similar to this. 3. Consider, what details from the article most connected with

	you, and why? How can you communicate the emotions and experiences expressed in this story through the design of your graphic?
Performance Task(s)	Next have students review this site and brainstorm in small groups how descriptive statistics from the article could be displayed. Ask the students to share a preferred type of visual in a Jamboard.
Evaluation	Using a Google Form (or similar survey tool) have the students answer: 1. How does a personal story help readers better understand descriptive statistics about the pandemic? 2. How do visuals of descriptive statistics help readers understand an under reported story (as in the example we give above)?
Extension	As an extension activity have students return to the visual entitled "The Distance Between" in "Inequality and COVID-19: Distances To Sentinel Treatment Centers in Venezuela." Ask students to think about how they might pair a personal story with the graphic to communicate the aspects of the statistics about long distances to medical treatment centers. Ask them to identify who they would interview and what they would ask. Ask them if they would prefer to communicate these types of personal stories with print or video.

Day Three: Let's make a data visualization!	
Objectives	After this lesson, students will be able to… ● Identify interesting data visualizations. ● Determine an article of interest and find descriptive statistics in the article. ● Decide upon and begin the creation of a graphic to match their chosen article. Students will complete their graphic after this class period at home or during class if there is enough time.
Resource(s)	Resources for all lessons are linked here (slide 4)
Time Required	60 minutes
Warm-up	Start class by showing the students these visualizations (Slide 2 and 3), and discuss what makes them impactful by answering the following questions: 1. What makes the visuals interesting? 2. Is there a source? Could the data be inaccurate? Why? 3. What would you want to know more about based on the

	visuals?
Introducing the Lesson (themes, background, context, significance) - Project Explanation	1) Introduce the project with the rubric and example. Directions for the project are here. Students may work in groups or solo. ○ By the end of this project, students will produce… ■ A graphic to visualize a descriptive statistic from a global news article ■ A reflection on how this graphic helps communicate the underreported story from the article, and how the student personally connects to the issues covered in the story. ■ Here is an example final project graphic, example analysis & rubric attached here). 2) Next, have students review the following COVID-19 articles from the Pulitzer Center and choose an article of interest for their project: [https://docs.google.com/document/d/1qUWo4JVhI-v2EKbucgNIbsult0cKNdyfIqiDV1OI9Gc/edit]
In-class activity: including discussion questions and comprehension questions for resource(s)	Give the students time to read their articles and write down all descriptive statistics. They should note the source of where descriptive statistics came from if provided. In the same document students should reflect on what parts of the article stood out to them. (Here is an example of a listing.) Students should share their listing with the instructor. Next, have students brainstorm about the style they would like to create for their own graphic informed by their listing and reflection. Review graphic-making applications with the students here (slide 4). If time, have students create their graphics with their statistics using one of the resources listed here on slide 4 (example of graphic).
Performance Task(s)	Listing of descriptive statistics to be shared with the instructor.
Evaluation / HW	Students should create their graphic using one of the resources listed here on slide 4 (example of graphic). This may take an additional class period or time at home to complete.

Day Four: Project work session

Objectives	This lesson is a project work session. During this class students will prepare their reflections about the graphic they created. By the end of class students will complete their first draft.
Resource(s)	Resources for all lessons are linked here.
Time Required	60 minutes
Warm-up	Review rubric and project example with class. Directions for the project are here. (Example final project graphic, example analysis & rubric attached here).
Project Work Session	In small groups, or individually, students will work on completing their project. They will use this template as a space for their project. 1. They can work on completing their graphic using these resources on slide 4. They should also be considering how the design for their graphic can help communicate the emotions they identified in the article. 2. They will link their descriptive statistics visual and chosen story into this template. 3. Students should use this time to write their reflections about the journalistic, statistical and personal aspects of their graphics by following this template. 4. When they are ready, students will submit a first draft.
Evaluation	Rubric
Homework (or additional class period)	Instructor will review the first draft and submit it back to the student with comments. For homework or during an additional class period, students will complete their project revisions and submit for final evaluation.
Extension	Have students peer review projects using the following questions: 1. How clearly does the graphic communicate underreported impacts of the COVID-19 pandemic? 2. How well does the design of the graphic communicate the stories and emotions of individuals who are impacted by this statistic? 3. In reviewing the personal reflection, is it clear how this student is personally connecting to the underreported issues presented in the article they chose?

Day Five: Presentations	
Pre-planning	After students submit their final project to the instructor, the instructor can link their projects to a collaborative document or site.

	This could be a: 1. Thinglink 2. Website - Google Sites, Wix or Weebly 3. Google Slide 4. Google Maps An idea would be to link everything into an infographic by utilizing each student's chosen data point from their reflection to create an infographic like this from *The 1619 Project.*
Objectives	Students will celebrate the completion of their project and share with classmates, community or a wider audience.
Resource(s)	Resources for all lessons are linked here.
Time Required	60 minutes
Presentation	Have students share their graphic visual with the class in a presentation and answer the following: 1. What is the story you chose? 2. Why did you choose your selected story? 3. What data point did you find to be most impactful? 4. What is the impact you would hope to have by including your visual in an underreported story?
Evaluation	Create an evaluation for students to answer the following: 1. What did you learn about underreported stories from your project? 2. What did you learn about descriptive statistics and the impact of including descriptive statistics in a news story? 3. What is your assessment of this project? 4. What would you change or add to this project?
Extension/Alternative to Project	