INVESTIGATE

Core Learning Objectives

Participants will

- Access online media and analyze (and compare) documents in terms of word occurrence and frequencies
- Recognize and evaluate *point of view* and bias in media products and create media with their own point of view
- Co-create a network diagram and comprehend its various elements, including the importance of centrality
- Appreciate the importance of networks, and especially of connectors, in the flow of information (whether created by the media or by users themselves) in the digital world.

Context for Facilitator

These first three activities introduce participants to ways of looking at information—and words themselves—as *data that can be counted* and analyzed in very basic ways. They also introduce to participants the power of creating pictures of data, or ways to *visualize data* and relationships between types of data.

The first two activities in this module guide participants in using two very basic tools to help them analyze texts. WordCounter allows them to look at what words are used in a document and the frequencies with which those words are used. SameDiff allows them to compare word frequencies between two documents that cover the same information or are similar in some way. Both tools depict results quantitatively (numbers of words and frequencies) and also through pictures, or "clouds."

Participants are encouraged to analyze results in various ways. What can we learn from word choice and word frequency in digital media? Do we learn different things from numbers and pictures? Do we react to these two ways of conveying information differently? The last exercise introduces the concept of networks.

Participants learn to co-create a Google spreadsheet with simple information about themselves. Then, using yet a third tool Connect the Dots), they transform the data into a single picture that shows commonalities and connections between people. The picture also demonstrates the concept of "centrality," or the importance of connectors, or bridges, between different groups. Participants are encouraged to think about what network diagrams might tell us about how information sometimes travels online in a community. They can also experiment using data sets already uploaded on the tool site. The concepts behind this last activity are more complex than the first two and may be more difficult, or take much more time, for younger learners.

Core Learning Objectives, *continued*

Questions for Discussion

Each of the three activities that follow includes suggestions for debriefing questions and group discussion. After completing all three activities, the facilitator might also review with participants the following:

- Which of the digital tools used in these activities was most informative to you in analyzing media and media users? (*How/Why?*)
- What other media elements do you think it is important to analyze and evaluate in order to be truly "media literate"? *(Participants might mention elements introduced in the next module as well as some not mentioned—such as sponsorship, source of information quoted, etc.)*
- To what extent do you think your own media consumption is determined by your present *point of view* or by that of a group that you are a part of?
- Reflect on your personal degree of "centrality." Are you a connector? Would you like to have greater "centrality"? If so, where might you begin?

1.1 WordCounter

Purpose

This first activity, using the online *WordCounter* tool, allows participants to look at what words are used in a document and the frequencies with which those words are used. This is the most basic way to *investigate* media products. The activity also introduces to participants the power of creating ways to *visualize data* with simple word clouds and pictures they create themselves to convey meaning.

Learning Goals

Participants will:

- Analyze word use and word frequency in specific media products
- Create alternate stories, through words and pictures, based on their analyses
- Reflect on the different ways numbers and pictures convey meaning
- Understand and appreciate that media products contain patterns that affect us consciously or sometimes unconsciously

Time

30 to 45 Minutes

Supplies

- Computers *(1 for every 3 participants)*
- Projector and access to the Internet for all computers
- Large pieces of paper *(roughly 2 feet x 3 feet)*
- Thick crayons or markers
- Several large tables or floor space or tape to stick paper to walls so participants can draw

Facilitator Preparation

***WordCounter* is a simple tool. It includes some "ready made" media texts for participants to analyze. However, this activity will be much more meaningful (and fun) if you upload materials ahead of time that will be especially interesting to your group of participants. News articles or speeches will make good examples. Longer advertisements may also be interesting and song lyrics are fun.**

Documents and links to documents are easy to upload in the *WordCounter* tool. Go to https://civicidea.databasic.io/en/wordcounter/ and look in the dropdowns to see what is already there. Then find content to copy and upload that will interest your group.

Practice analyzing a few media products yourself and thinking about what the results suggest. Decide which examples you will use to demonstrate the tool to participants. Plan on at least a couple of hours preparation for this activity.

WordCounter, *continued*

Introduce the Activity to Participants

Begin with several open-ended questions to get learners thinking about the importance of analyzing media content (rather than just being passive consumers). (Accept all ideas unless they are 100% false.)

- How many of you read about the news online? What are the sources you most often look at?
- Do you go to these sources yourself, or do you get "newfeeds" on your different apps?
- When you read a news article, or look at an advertisement, do you ever find that certain words or phrases are used over and over, or affect you very strongly?
- How often is information conveyed with data visualizations? Does this help you understand the information or data being conveyed?

Introduce and Demonstrate the Tool

Tell participants they're going to use a simple tool today that helps analyze the words used in some media products. Demonstrate the tool. Open up *WordCounter* https://civicidea.databasic.io/en/wordcounter/. Select an article from one of the dropdowns or paste a link to a recent local news article (that you have previously selected) using the Paste a link tab. Press Count to show an analysis of the words written in the selected article. Scroll down the list of words so learners understand how the results are presented. Explain that the size of each word represents how frequently it is used. In other words, it's a way to *visualize* the results.

Launch the Activity

Part 1:

1. Participants break into groups of three with a computer for each group.
2. Each team signs on to *WordCounter* (https://civicidea.databasic.io/en/wordcounter/).
3. **First**, each group picks a document to analyze. (If they have time, they can experiment with several documents and see which produces the most interesting results.) *NOTE: Advance learners may wish to copy their own documents or links from the web if there is time.*
4. Remind learners that to "activate" the tool, they should click on the orange "COUNT" button at the bottom of the box.
5. Remind participants to look at both the word count results and the word cloud/picture results.
6. Give the groups 5-7 minutes to experiment with the tool.

Part 2:

1. When they have picked a document and had a chance to experiment with the tool, explain that they must take one of the large sheets of paper and draw their own picture of what the most frequently used words suggest to them.
2. Emphasize that there is no right or wrong answer to this question. They can depict whatever the words convey to them, even if it seems "off the topic." Very simple drawings and stick figures are fine.
3. Tell participants they have 10 minutes to draw the activity.

Part 3:

Ask each team to share the source of the content they used. Then give them one minute to explain why they drew this particular picture (which words they were depicting and why the words suggested this image).

Debrief and Reflect

End the activity with several open-ended questions to encourage sharing and reflection, such as:

- Was the tool easy/fun to use?
- Did the results ever surprise you, give you some insight into the producer of the media?
  (What is the effect of seeing some words over and over? Does it help present a point of view?)
- Did you find the word "counts" or the word "clouds" more interesting? Would they be effective in different circumstances?
  (Pictures affect different parts of our brains and can elicit emotions.)
- Do you think you might use this tool again on your own? If so how/when?
  (Including the word cloud tool)

1.2 SameDiff

Purpose

The *SameDiff* tool is a variation of the *WordCounter* tool, but a little more complex. It allows participants to compare word counts from two different documents/sources. It helps participants see differences and similarities in the words used in two sources and quantify (as well as pictorially visualize) differences.

The activity introduces the concept of *point of view* and allows for discussion of *spin, slant,* or *bias*. Participants are encouraged to get in the habit of evaluating media products for point of view. They also practice creating word patterns of their own to reflect a point of view.

Learning Goals

Participants will:

- Compare word use and word frequency in specific media products
- Evaluate media products for *point of view*
- Characterize the difference between *point of view* and *degrees of spin* or *bias*
- Create a media product with a point of view
- Understand and appreciate that many media products are based on *some point of view*

Time

30 to 45 Minutes

Supplies

- Computers *(1 for every 3 participants)*
- Projector and access to the Internet for all computers
- Large pieces of paper *(roughly 2 feet x 3 feet)*
- Thick crayons or markers
- Several large tables or floor space or tape to stick paper to walls so participants can draw

Facilitator Preparation

***SameDiff*, like *WordCounter*, includes some "ready made" media texts for participants to analyze and compare. Once again, however, this activity will be more meaningful if you upload materials ahead of time that will be especially interesting to your group.**

Look for pairs of documents. For example, find two articles that cover the same story. Or, find speeches by two different government figures. Longer advertisements about various topics, as well as song lyrics, can be fun.

Go to https://civicidea.databasic.io/en/samediff/ and look in the dropdowns to see what is already there. Then find additional content to copy and upload that will interest your group. Practice analyzing a few pairs of media products yourself and thinking about what the results say about the different *points of view* taken by the products. Decide which examples you will use to demonstrate the tool to participants. Plan on at least a couple of hours preparation for this activity.

SameDiff, *continued*

Introduce the Activity to Participants

Begin with several open-ended questions to get learners thinking about *point of view* and how words can be analyzed to understand point of view.

- In our last activity we used a tool to help analyze word choice and frequency in a media product. Can someone give us an example of how word choice can indicate a *point of view*? *(Give participants time to come up with several examples. Offer a couple yourself if they have trouble.)*
- How common is it for a media product to be written from a particular point of view? In your experience, do a few, or most media products, seem to represent a point of view? *(Participants may disagree about whether certain media have a specific/consistent point of view. They may also disagree about whether taking a point of view is good or bad.)*
- Do you think there is a difference between point of view and bias?

Introduce and Demonstrate the Tool

Tell participants that in this activity they will be able to experiment with a new tool that compares word choices in different media products. They can decide if the tool is helpful in analyzing the point of view of texts. Demonstrate the tool. Open up *SameDiff* (https://civicidea.databasic.io/en/samediff/). Select a media product from dropdowns in both the left and the right columns. Click on **Compare** at the bottom of the box. Note that the results that appear first are just the word counts for the two documents. The three columns below that show how the products are both similar and different: The right and left columns show words unique to each article. Those columns represent their differences. The middle column shows the words they have in common. (There also may be a similarity score at the top of the screen. *SameDiff* uses an algorithm called "cosine similarity" to produce this score. This function counts how often each term appears in each document and then compares how closely the numbers match. Some more advanced learners may be interested in this detail.)

Launch the Activity

Part 1:

1. Participants break into groups of three with a computer for each group.
2. Each team signs on to *SameDiff* https://civicidea.databasic.io/en/samediff/
3. First, each group should pick two documents to compare from the parallel dropdown menus. (If they have time, they can experiment with several pairs of documents and see which produce the most interesting results.) *NOTE: Advance learners may wish to upload their own documents or links from the web if there is time.*
4. Remind learners that to "activate" the tool, they should click on the green **COMPARE** button at the bottom of the box.
5. Give the groups about 10 minutes to experiment with the tool.

Part 2:

1. When they have completed their comparison, explain that they must then take one of the large sheets of paper and write their own, third version of the story/subject/advertisement. (It doesn't have to be as long. Just a few sentences is fine.) Tell them to use their own words that allow them to take a *point of view*.
2. Emphasize that there is no right or wrong story in this case. This is just an exercise and they can even take a point of view that is not really their own.
3. Tell participants they have 10 minutes to write their new story together.

SameDiff, *continued*

Part 3:

1. Ask each team to share their comparison documents so the other teams can follow along and see their *SameDiff* results.
2. After a team shares the documents and the *SameDiff* results, give them a few minutes to read their own story out loud.
3. After a team makes its presentation, ask the whole group whether it communicated a *point of view*, and which words in their story hinted at or "gave away" that point of view.

Debrief and Reflect

End the activity with several open-ended questions to encourage sharing and reflection, such as:

- Did you find the tool helpful in evaluating points of view and spotting bias?
- Do you think you were already pretty good at spotting *point of view*, or do you think you will reflect more on *word choice and frequency* in the future?
- Do you think the media products you read now all have the same point of view? Or, are you exposed to different points of view?
- In your opinion, is it better to find media products that express a point of view you feel is most like your own, or to compare media products from different sources?

Note that some of these questions may be very sensitive in certain political and legal contexts. Participant responses may vary a great deal.

1.3 Connect the Dots

Purpose

Connect the Dots is a more challenging tool and illustrates more complex ideas than those in the first two activities. Younger participants may not be ready for this activity. It guides the group in creating a Google spreadsheet with information about people with respect to a single, simple issue. Participants then "see" what this information looks like when presented in a "network diagram," or map. Some participants will appreciate that the online tool is based on a computer algorithm that measures the strengths and directions of specific connections. All participants will gain awareness of network mapping and understand that complex interconnections may at first appear to be very simple. Participants will be encouraged to think about how networks affect the flow of information in the digital age.

Learning Goals

Participants will:

- Understand the concept of a network and basic elements such as nodes and connections
- Understand the concepts of "degree" and "centrality" and why the latter is powerful
- Analyze a simple network that they are a part of—using an online network analysis tool—and comprehend the resulting visual "network map"
- Appreciate the value of examining networks
- Reflect on how networks can affect the flow—especially the sharing—of information, especially in a digital universe

Time

30 Minutes

Supplies

- Computers *(1 for every 3 participants)*
- Projector and access to the Internet for all computers
- Large pieces of paper *(roughly 2 feet x 3 feet)*
- Thick crayons or markers
- Several large tables or floor space or tape to stick paper to walls so participants can draw

Facilitator Preparation

This activity requires that the facilitator understand how to create a Google Sheet and guide participants in collaboratively entering simple data. (Instructions are provided at this link.)

The facilitator should familiarize him/herself with the glossary of network terms (see below) and with the sample network diagrams provided in the *Connect the Dots* tool (https://civicidea.databasic.io/en/connectthedots/). Then, the facilitator should practice creating a Google spreadsheet and uploading the data into the tool. To prepare for the activity learners will carry out together, create a list of about five to seven typical locations participants in this group are likely to gather within their own communities (school, park, place of worship, coffee shop, etc.) Create duplicate copies of this list to give participants or be ready to write it out on a black/white board at the beginning of the activity. Preparation time for this activity will vary for different facilitators, depending on their familiarity with Google spreadsheets and network diagramming.

Connect the Dots, *continued*

Introduce the Activity to Participants

Begin with several open-ended questions to introduce the idea of a network.

- Everyone here today is part of a special "group." That is, you're all participants in this curriculum. But each of you is also part of many other groups, and some of these overlap and some don't. Can you think of any other group you're **all** part of? *(Perhaps all are in a certain age group, or all from a specific geographic area. If participants only mention very obvious ones, suggest a few more subtle ones about their behaviors or preferences—for example, did they all eat breakfast or a specific thing for breakfast?)*

- Can some of you tell us a few important groups or groupings (characteristics you have in common with others) that you're sure **not everyone** here today shares with you? *(Allow participants to point out ways in which they are unique from others. Let participants volunteer these characteristics about themselves, rather than pointing out how others in the group may be "different.")*

- Now, can someone tell me what a network is? *(Participants may suggest a number of ideas that may be helpful. Simple definitions include: a system of intersecting horizontal and vertical lines; a group or system of interconnected people or things; a web, mesh, lattice matrix. In a network, different things crisscross with each other. That's what gives it strength. A network of people is not just a homogeneous group, but a collection of people who are connected to each other in some way, but have both things in common and things that are not in common.)*

Introduce and Demonstrate the Tool

Explain to participants that they will be experimenting today with a tool that analyzes networks and also creates maps or diagrams of networks. Open *Connect the Dots* (https://civicidea.databasic.io/en/connectthedots/). Participants are also encouraged to go to https://graphcommons.com/ to explore the different networks that groups are creating and analyzing. Go to one of the sample networks. Les Misérables Character Co-occurence may be the easiest one to explain to participants. Explain that the network diagram captures connections between people, organizations, or things. Point out the **nodes** (dots) and **edges** (connections) on the diagram and explain what they represent. Keep "color" on "community." This highlights that the network actually consists of many groups that are linked together by certain people who belong to more than one group.

Explain the meaning of the other terms in the glossary below (**degree** and **centrality**.) (It might be good to create simple diagrams of a node with a high degree and a node with high centrality, to illustrate the difference. This could be done on a blackboard if it isn't uploaded.) The concept of **centrality** is particularly important. This is a node that may or may not have connections to a lot of other nodes, but it is connected to nodes in several different groups. You can ask participants how common or rare it is to find someone who connects with a *lot of groups*.

Glossary of terms for the facilitator to explain to participants in the course of the demonstration:

Node: The "dots" on the map. These represent the central organizing thing (in our examples, a person) whose connections/relations you are analyzing.

Edge: A connection between one node and another node (lines on the map).

Degree: The number of connections a node has.

Centrality: Scores how much of a "connector" a node is. A high score means lots of nodes can connect to other nodes by first connecting to this one.

Launch the Activity

Part 1—Group activity

1. Explain to participants that, together, you're going to create a simple network diagram of people in the room and the places they like to gather.
2. Facilitator creates a public Google Spreadsheet and writes the short url on a blackboard/whiteboard so participants can all open it up. Add a header row with two columns: "Name" and "Place."

Connect the Dots, *continued*

3. Break the room into pairs of participants. Give the teams a choice of various public community spaces to choose from and tell them to select a type of space as their topic (for example: public parks or restaurants in the community) Ask each team to declare their chosen topic/space.
4. Tell each person to add three rows to the shared spreadsheet, each including their name in the first column and then their topic choice in the next (one row for each choice). Tell them it is fine if they choose the same topic.
5. Go into *Connect the Dots* and copy and paste the person–topic data into the Paste Data tab. Click on Graph.
6. Discuss the output. The diagram of their data is on the left, showing the connections from people to places. Introduce the two types of scores under the chart, which summarize the connection between nodes. Discuss the concept of centrality, showing the top "connectors" in the group.

Part 2—Team activity

1. Break the room into groups of three, each with a computer.
2. Ask each group to pick a dataset to analyze. They can choose the one they just created or one of the sample sets.
3. Their task is to look for interesting insights into the data based on the network diagram. They should be prepared to demonstrate the diagram to the group and explain what they found interesting and why.
4. Give them 10 minutes.

Part 3—Sharing of results

1. Each team projects its map to the group and explains what they found interesting and why.
2. The facilitator should help moderate the team presentations to make sure everyone understands the major elements of the diagrams.

Debrief and Reflect

End the activity with several open-ended questions to encourage sharing and reflection, such as:

- Do you think a network diagram is a useful way of visualizing relationships between people? *(Why/why not? Did they find the activity challenging?)*
- What are the benefits and limits of analyzing data as a network? *(Could their findings have been discovered in the spreadsheet version of these data?)*
- Why did we do this activity in a module about media literacy?
- Do you think networks and network maps are especially relevant to a digital age? *(Why/why not?)*