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Using the DIG Method for Data Literacy

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Chapter 33

Using the DIG Method for Data Literacy

Dana Statton Thompson

Introduction

As a research and instruction librarian and a liaison to the College of Business, I often incorporate lessons on data literacy and visual literacy into my instruction sessions for business students. In these sessions, I focus on teaching students how to read the photographs, charts, graphs, and infographics they encounter in databases (such as IBISWorld and Statista) and news sources (such as The New York Times and The Wall Street Journal). While teaching journalism students, who funnily enough fall under the College of Business at Murray State University, I developed a method for evaluating digital images called the Digital Image Guide (DIG) Method.¹ In this short chapter, I explain how you can use a modified version of the DIG Method for data literacy instruction—which I am calling the DIG for Data Method—specifically with data visualizations and other images that rely on data, such as charts, graphs, and infographics.

Planning

Number of participants

This lesson is ideal for 10 to 40 participants.

Audience

Undergraduate students

Preparation and Resources

Create a short presentation defining data literacy² and visual literacy,³ including “good” and “bad” examples of data visualizations, charts, graphs, or infographics.

Decide on what type of image you are going to use for the activity (data visualization, chart, graph, or infographic). If you decide to use something other than a data
visualization, substitute that type of visual media for the term “data visualization” in the
directions below.

Print out copies of the DIG for Data Method for each student (figure 33.1).

<table>
<thead>
<tr>
<th>The DIG for Data Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyzing</td>
</tr>
<tr>
<td>• Review and describe the data visualization, chart, graph, or infographic.</td>
</tr>
<tr>
<td>• Who, what, when, and where do you see represented in the data visualization?</td>
</tr>
<tr>
<td>• Review the text.</td>
</tr>
<tr>
<td>• What textual information is provided (caption, date, and/or headline)?</td>
</tr>
<tr>
<td>• React to the data visualization.</td>
</tr>
<tr>
<td>• How does it make you feel?</td>
</tr>
<tr>
<td>Interpreting</td>
</tr>
<tr>
<td>• Determine the source (creator, publisher, and/or website) of the data visualization.</td>
</tr>
<tr>
<td>Who created it? Who owns and/or published it?</td>
</tr>
<tr>
<td>• Determine the message of the data visualization.</td>
</tr>
<tr>
<td>What is the message? Who is the intended audience?</td>
</tr>
<tr>
<td>• Search for other online sources that further contextualize the data visualization.</td>
</tr>
<tr>
<td>How does context (social, cultural, historical, and/or political) inform the data?</td>
</tr>
<tr>
<td>Evaluating</td>
</tr>
<tr>
<td>• Think back to your first reaction to the data visualization. How might your reaction impact how you view it?</td>
</tr>
<tr>
<td>• Refer back to the other websites that have published the data visualization.</td>
</tr>
<tr>
<td>Has the data been misrepresented or manipulated?</td>
</tr>
<tr>
<td>• Assess the reliability and accuracy of the image.</td>
</tr>
<tr>
<td>Is the data reliable and accurate? Why or why not?</td>
</tr>
<tr>
<td>Comprehending</td>
</tr>
<tr>
<td>• What judgments can you make about the data visualization based on your evaluations above and the available information?</td>
</tr>
<tr>
<td>• Do any of your biases or point of views impact how you view the data visualization? If so, how?</td>
</tr>
<tr>
<td>• What is the purpose of the data visualization (to inform, to instruct, to sell, to entertain, to enjoy, and/or to persuade)? Why do you think so?</td>
</tr>
</tbody>
</table>

**Figure 33.1**
The DIG for Data Method.
You will need computers with web access for students and a workstation computer with a projector and screen for the librarian.

**Description of Lesson/Activity**

**Goals/learning outcomes**

By the end of this lesson, students will be able to use the DIG for Data Method in order to evaluate a data visualization, chart, graph, and/or infographic.

**Time required**

60 minutes but can be modified if you have less or more time.

**Teaching Outline**

**Introduction (5 minutes)**

Begin with a short introduction of the topic, the goals of the session, and briefly define visual literacy and data literacy.

**Mini-lecture on using data in visual imagery (15 minutes)**

- Explain the different types of data visualizations that students will encounter on the internet (and especially social media); use examples of “good” and “bad” data visualizations to make your point.
- Ask the students to provide some examples by searching for and finding examples on their own laptops or by using the computers in the classroom (if available). Based on what the students find, the instructor can repeat their search to find one or two of these data visualizations on the computer, projecting them overhead for the students to examine.
- Briefly discuss the data visualizations and what makes them “good” or “bad” examples.

**Using the DIG for Data Method (30 minutes)**

- Project the data visualization you have pre-selected for the exercise.
- Provide each student with their own worksheet and then allow students to answer the questions included in the DIG for Data Method, checking in with each student to judge progress.
- After they have worked independently, have the students confer with a partner for five minutes or so, discussing the similarities and differences in their answers.

**Report back and closing discussion (10 minutes)**

- Bring the group back together and ask a couple of pairs to share so the class can see other examples/applications. Allow time for discussion here, if possible.
- Restate the learning outcomes and check for comprehension. Summarize the lesson and allow for some Q&A time, if possible.
Additional details

See Alberto Cairo's *How Charts Lie* (2019), Nancy Duarte's *DataStory: Explain Data and Inspire Action Through Story* (2019), and Carl T. Bergstrom and Jevin D. West's *Calling Bullshit: The Art of Skepticism in a Data-Driven World* (2020) for other great sources on data literacy.

Transferability

Substitute databases

Instead of having students come up with data visualization examples in step 3 from the internet, have the students use databases such as IBISWorld and Statista or news sources such as *The New York Times* and *The Wall Street Journal* to find their examples prior to the class session.

Ability to transfer to online

In order to teach this lesson in a synchronous, online instruction session via Zoom, Google Meet, etc., you could use the flipped classroom approach in which the students review the mini-lecture on using data in visual imagery prior to the class meeting. During the session, reiterate the goals of the session and briefly define visual literacy and data literacy. Students can access an online handout of the DIG for Data Method as you introduce the data visualization you have selected for the lesson. After reviewing the components of the DIG for Data Method, students can work through answering their questions independently. For the ambitious, breakout rooms can be used to create small groups to discuss. For those without that capability or inclination, ask students to share their thoughts with the class. You can then restate the learning outcomes, check for comprehension, and summarize the lesson.

To different class sizes or audiences

Adjust the content to make it more discipline-specific if you are teaching higher-level courses. Adjust the content to make it broader and more general if you are teaching lower-level courses.

Endnotes


3. “ACRL Visual Literacy Competency Standards for Higher Education,” Association of College and Research Libraries, http://www.acrl.org/acrl/standards/visualliteracy; Standard Three (the visually literate student interprets and analyzes the meanings of images and visual media) and Standard Four (the visually literate student evaluates images and their sources) are particularly relevant to this activity.
Bibliography


