

Online Reading Strategies for the Classroom

Although my undergraduate university students have grown up in a world of information and communication technologies, their comments indicate that that does not necessarily make them skillful digital readers:

“I have trouble remembering stuff if I try to read on my computer.”

“I keep getting distracted when I do research online.”

“I just can’t focus like I can when I have a real textbook in my hands.”

Learners today are expected to be digitally literate, but have they been taught how to read digital texts effectively?

Digital reading, no longer a projection for the future, is a reality today. Information and communication technologies (ICTs), such as mobile applications and the Internet, are already an integral part of students’ lives. ICTs are used increasingly for personal matters but have also substantially altered the types of reading that students are expected to do in their current and future studies, not to mention their careers (Leu et al. 2011). Literacy today requires not only the comprehension of traditional print texts, but also proficiency in twenty-first-century technology (International Reading Association 2009).

While reading online has become commonplace and in many instances mandatory, readers are not necessarily engaging with digital texts effectively or efficiently. Instructors can help their students improve online reading speed and comprehension by understanding the distinctive challenges of online reading and providing sufficient strategy training and

digital-reading practice. The goal of this article is to outline some of the difficulties of reading online, describe several strategies for overcoming those difficulties, and provide hands-on activities to help students practice the strategies.

THE CHALLENGES OF ONLINE READING

Reading is reading, right? Yes and no. Reading, be it print or digital, requires a number of complex skills to work in concert in one efficient and automatized operation. The expert reader is continuously using bottom-up and top-down skills throughout the reading of a text (Grabe 2009). Bottom-up skills help the reader recognize words based on knowledge of spelling, sound, sentence structure, and meaning (Nassaji 2014). If a reader does not recognize words quickly enough, reading is not fluent, and comprehension suffers. Top-down processes are also crucial, allowing the reader to draw on previously acquired information, set goals, and use strategies.

Online readers must be particularly adept at evaluating the credibility of a source.

While these underlying processes are similar for both print and online reading, there are also substantial differences between reading in print and reading online. Three differences merit particular attention. First, the Internet offers a vast volume of information. Because online readers have such easy access to so many sources, they must be able to quickly evaluate whether a site will be useful. Once they have located a potentially relevant article, they must scan and skim the text efficiently to verify that the information is, indeed, pertinent. If online readers attempt to read every text in depth, they will waste too much time on articles that turn out to be irrelevant. At the same time, as with print reading, once a reader has determined that a text will be useful, it is imperative to read that text deeply. Constantly shifting between skimming and deep reading requires great flexibility and is a skill that must be practiced (Coiro 2015). Without sufficient training, online readers tend to scan too much and not understand a text fully or, on the contrary, read too deeply and not quickly enough.

Second, a great deal of information online is not fact-checked or is published by a source that may not be reliable. As a result, online readers must be particularly adept at evaluating the credibility of a source. Even students who have heard the “Wikipedia speech”—and know not to cite information if the author is unknown or is not an expert in the field—generally have trouble recognizing bias. An online reader researching oil drilling is likely to find some sites published by the government, some by oil companies, and some by environmental nonprofit organizations, not to mention blogs written by people who are neither experts nor accountable to anyone for what they post online. In the online world, where virtually anyone can publish virtually anything, it is particularly crucial for readers to be able

to critically evaluate information. Students require guidance to help them differentiate fact from opinion and distinguish evidence-supported fact from presumed fact (Dobler and Eagleton 2015).

Finally, online reading is generally nonlinear (Cobb 2017; Geva and Ramirez 2015; Kymes 2008). With a paper book, readers typically have one text in front of them; they begin on the first page and continue reading each page, following a progression of ideas imposed by the author. In contrast, online readers rarely have just one text in front of them. A web page often presents multiple texts, pictures, videos, and advertisements, all visible together on the screen. Hyperlinks sending online readers to other pages are scattered throughout. Online readers tend to click on those links, moving rapidly from one text or site to another and only occasionally returning to the original page. Constantly moving between texts, pages, and sites puts a strain on cognitive resources (Spiro, Klautke, and Johnson 2015). The temptation to check email, social media, and other unrelated sites is an additional potential distraction.

Even when online readers do not click on hyperlinks, eye-tracking research has shown that online readers tend to be distracted by advertisements and other texts located on the same page as the article they are reading (Nielsen and Pernice 2010). It is no surprise that online readers have been found to multitask and have difficulty concentrating (Baron 2017; Daniel and Woody 2013). Processing an online text efficiently (i.e., reading fluently, avoiding distractions, and thus staying “in the reading moment”) is one of the greatest challenges with online reading (Dobler 2015, 487). Less skilled digital readers are not able to overcome this challenge, potentially increasing fatigue, reducing speed, impeding comprehension, and

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ultimately dampening motivation (Cobb 2017; Daniel and Woody 2013; Sandberg 2011).

Another challenge related to the lack of linearity inherent in online reading is remembering where information was found. With online readers hopping from one text to another, then to their email, then back to the original text, it is no wonder that they lose track of information. It becomes imperative to take careful note of both information and sources throughout the reading process (Dobler and Eagleton 2015). Online readers also need to be continually consolidating data, piecing together information that they learn from many different sources. Synthesizing information helps readers determine what information they still need in order to form a complete picture of an issue, and this assists them in deciding what to read next.

OVERCOMING THE CHALLENGES

Strategy training and practice helps learners overcome the challenges of reading online and become digitally literate—able to read with sufficient accuracy, fluency, and ease. Strategy training should begin with instructor modeling so that students understand both how to implement the strategy and why it is useful. Then students need to have sufficient practice reading digital texts; training with print texts does not necessarily improve performance with digital texts (Geva and Ramirez 2015; Ortlieb, Sargent, and Moreland 2014). Strategy-training activities should be scaffolded, with guidance from the instructor at the beginning but gradually allowing students more and more autonomy. The ultimate goal is for students to be able to choose which strategies will be useful to them for any given online reading task and to implement the strategies effectively. Students are both more adept at and more enthusiastic

about digital reading when they have seen an instructor model strategies and received opportunities to practice strategies with increasing autonomy (Dobler 2015; Dobler and Eagleton 2015).

Discourse structure graphic organizers (DSGOs) are excellent tools for guiding students through the use of online reading strategies. DSGOs help readers understand both text content and structure (Jiang 2012; Jiang and Grabe 2007) and are particularly important with digital texts because online reading is nonlinear. Many online texts provide insufficient informational and spatial cues for readers to create a cognitive map, and DSGOs aid readers in both navigating and recalling the text (Li, Chen, and Yang 2013).

By explicitly teaching and modeling strategies and by providing sufficient opportunities for practice, including the use of DSGOs, teachers can help learners improve their digital-reading comprehension and become autonomous learners. Yet instructors often hesitate to incorporate technology in the reading classroom due to lack of resources, information, or training (Dobler and Eagleton 2015).

This article addresses that gap by presenting strategy-training activities and DSGOs that are easy for even the most technologically reticent instructor to implement in virtually any classroom setting, with or without digital technology. Three overarching, research-informed strategies are presented in this article: (1) focus on the purpose, (2) determine credibility, and (3) consolidate information. Each strategy description begins with a rationale based on a review of the literature on online reading. Sample activities and DSGOs are then provided for ready use in the classroom.

THE STRATEGIES

Strategy 1: Focus on the purpose

Successful online readers are able to focus on their reading task. First, they rapidly home in on the information they need by clearly identifying their purpose before launching their search (Cho 2013; Coiro and Dobler 2007; Zhang and Duke 2008). They start by choosing search terms that they believe will help them answer a specific question. Carefully selecting search terms before beginning a search ultimately saves time because results are more likely to be pertinent and useful.

In addition, skimming a text with particular terms and questions in mind allows readers to more quickly ascertain the relevance of the text to their search and helps them avoid becoming distracted by interesting but unrelated information. If the results appear to be off topic, efficient online readers are quick to modify their search terms rather than persist in trying to uncover information from extraneous sources.

After readers have skimmed a text to determine whether it is relevant, they must then read more deeply, remaining focused on that text. Fluency exercises using online texts

complete with distracting advertisements give learners the opportunity to practice concentrating on one text. The objective of these exercises is to learn how to ignore distractions, reading both quickly and accurately.

Teaching the strategy and guided practice

To help learners develop the skills necessary for purposeful online reading, instructors must provide models, guidance, and sufficient practice. Online literacy research shows the importance of (1) clearly identifying the reading purpose (topic and search terms); (2) keeping that purpose in mind when evaluating the usefulness of a site or text; and (3) remaining focused on reading one text at a time, avoiding the distractions of unrelated texts, links, and advertisements on the same page. Following are three activities that instructors can use to develop these skills in their learners.

1. Identifying the topic and search terms

An effective and efficient search for information online begins with a clear purpose. Students should write down their topic, the questions they need to answer, and the facts they need to verify. A handout where learners fill in this information ensures that

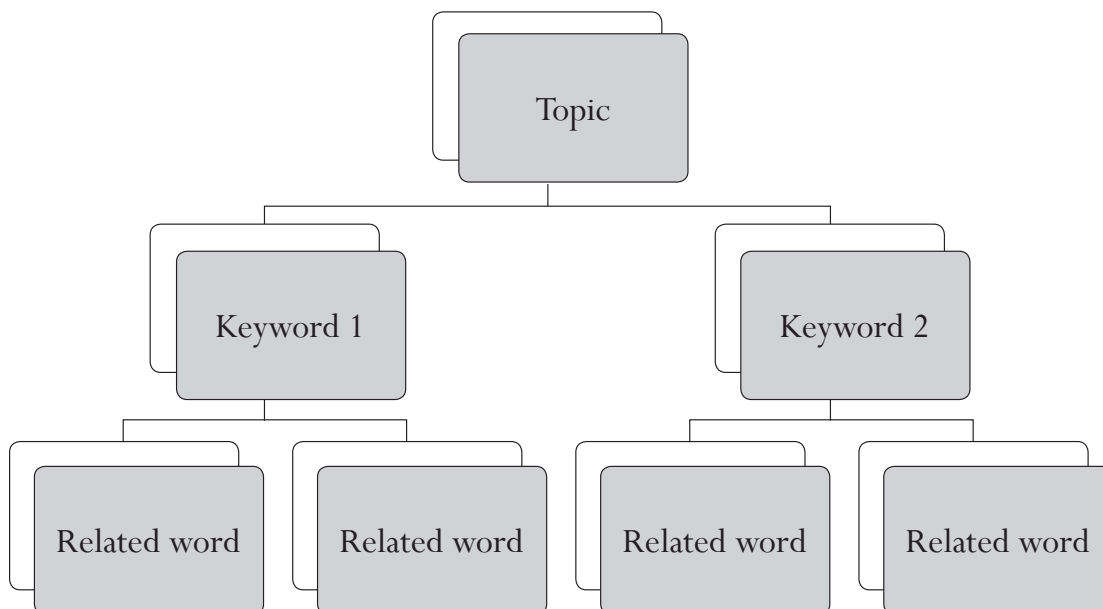


Figure 1. Concept map for developing search terms

they carry out this crucial step. Once they have clearly identified their topic, they can select keywords or key phrases to put into the search engine and brainstorm words related to their keywords.

Identifying related words is helpful in two ways. First, it is a means of verifying the relevance of a site or article. When online readers scan a text and see not only the keyword but also related words, they are more likely to have found information relevant to their topic. Second, related words are useful for refining a search if the initial keyword does not produce relevant results. Graphic organizers like the one in Figure 1 help learners with these steps.

The instructor first models this activity. The class then comes up with a topic and keywords and brainstorms related words to fill in Figure 1 together (e.g., the topic of “Amazon rain forest” might generate the keywords *Amazon* and *rain forest* and related words such as *forest*, *jungle*, *canopy*, and *tropical*).

2. Evaluating the usefulness of a text based on the reading purpose

To evaluate the usefulness of a site or text after the search has begun, learners should be continually reminded of the questions they

are trying to answer. Learners can be guided through this with information organizers (see Table 1). Note that Table 1 is designed to help students keep track of sources and also to ascertain the reliability of the information—whether the information is fact or opinion.

Instructors should also model how to fill in Table 1. This graphic organizer can be adapted for students of all ages. For example, younger children may be looking for answers to questions like “What is Mount Everest?” and “Who is Mother Teresa?” They may also not be ready to distinguish fact from opinion, in which case the final column on Table 1 can be deleted.

In addition, younger children will need a great deal of scaffolding in order to understand how to use both Figure 1 and Table 1.

3. Remaining focused on one text and avoiding distractions

For students learning to read an online text quickly while avoiding the distractions of competing texts, links, and advertisements on the same page, it is important to provide opportunities to practice under real conditions. For the following online fluency activity, students in a computer lab are asked to go to a web page with a high-interest

Question	Answer	Source	Fact/Opinion
What was the Human Genome Project?	Research program intended to map and understand all human genes	National Human Genome Research Institute (2016, May 11). An overview of the human genome project. Retrieved from https://www.genome.gov/12011238/an-overview-of-the-human-genome-project/	Fact
What was the Human Genome Project?	A scientific project that claimed to be about human progress but that actually worsened social conditions	Thomsen, M. (2013, January 29). The selfish gene: The broken promises of the Human Genome Project. <i>Daily Beast</i> . Retrieved from https://www.thedailybeast.com/the-selfish-gene-the-broken-promises-of-the-human-genome-project	Opinion

Table 1. Guide for documenting sources and ascertaining reliability

An effective and efficient search for information online begins with a clear purpose.

article at or below their reading level; students in a traditional classroom are given a paper screenshot of the web page, complete with distractor texts and advertisements. (Taking screenshots is fast and easy, but the steps differ slightly depending on the operating system. Search “take screenshot” online for more information.)

Students time how quickly they read the article and answer comprehension questions. They note their reading time and their comprehension score in a fluency log (see Table 2). Fluency activities are most effective when practiced regularly, so the same log should be used throughout a course or a semester to allow students to record their progress. Note that for this to be an effective *digital* reading exercise, advertisements and unrelated texts should not be removed. Remind students that in order to read quickly, they must remain focused on their article and not get distracted by advertisements or other texts.

Practice texts can be found anywhere online, depending on student interest and course curriculum, but finding age- and level-appropriate texts for children can be challenging. For kindergarten through 12th-grade (K–12) learners, good places to start are DOGOnews (<https://www.dogonews.com>) and TweenTribune (<https://www.tweentribune.com>), which offer nonfiction texts for K–12 that include distractor texts and links. If the full article does not fit into one screenshot, it is perfectly

acceptable to provide two screenshots or use just a portion of the text for the purposes of the fluency exercise, though students generally appreciate being given the full text after the exercise so that they can finish the article.

Strategy 2: Determine credibility

Successful online readers evaluate the trustworthiness of websites and cite only reliable sources (Dobler and Eagleton 2015). They favor information from sites with web addresses ending with .edu or .gov over those ending with .com, and they assign greater credibility to information published under the name of an expert author or organization. For many topics, successful online readers give preference to information that has been recently published or updated. They also examine the type of information reported and whether it appears to be substantiated fact or author opinion. Again, these strategies are critical for print-based reading as well, but print references have generally been fact-checked and edited, which is not the case with many online resources.

Teaching the strategy and guided practice

Ascertaining the credibility of a site, an author, or a text requires a great deal of explicit instruction and practice. Graphic organizers provide an excellent starting point for discussion and activities, as shown in the website credibility checklist in Figure 2.

The instructor begins by modeling how to use the checklist. Print out or project a web page

Date	Text Title	Time	Comprehension Score

Table 2. Fluency log

Online reading is not linear.

and explain that readers cannot always trust the information they find online. For the most reliable information, readers need to consider date, publisher, domain, and quality of information. They should find recent articles from a credible source, where the author is named and is likely to be reliable (e.g., a government agency, a university professor). These articles are most commonly found on .edu, .org, and .gov sites rather than .com sites. Instructors should discuss with learners the situations where opinions and unofficial sources might be used and the situations where verifiable facts are crucial.

Learners often require a great deal of guidance in distinguishing between fact and opinion and determining the reliability of a source. Comparing texts using an organizer

such as Table 3 provides helpful practice. Selecting a text that presents both facts and opinions, from both reliable and less-credible sources, offers an opportunity to discuss the need to think critically throughout the reading process and not solely when selecting a source.

Younger learners can begin thinking critically about the information they read but often require more simplified worksheets; materials suitable for K–12 can be found on ReadWriteThink.org (ReadWriteThink.org is a site sponsored by the International Reading Association and the National Council of Teachers of English, with support from the Verizon Foundation). For nonfiction articles to help K–12 students practice reading and thinking critically, see ReadWorks (<https://www.readworks.org>).

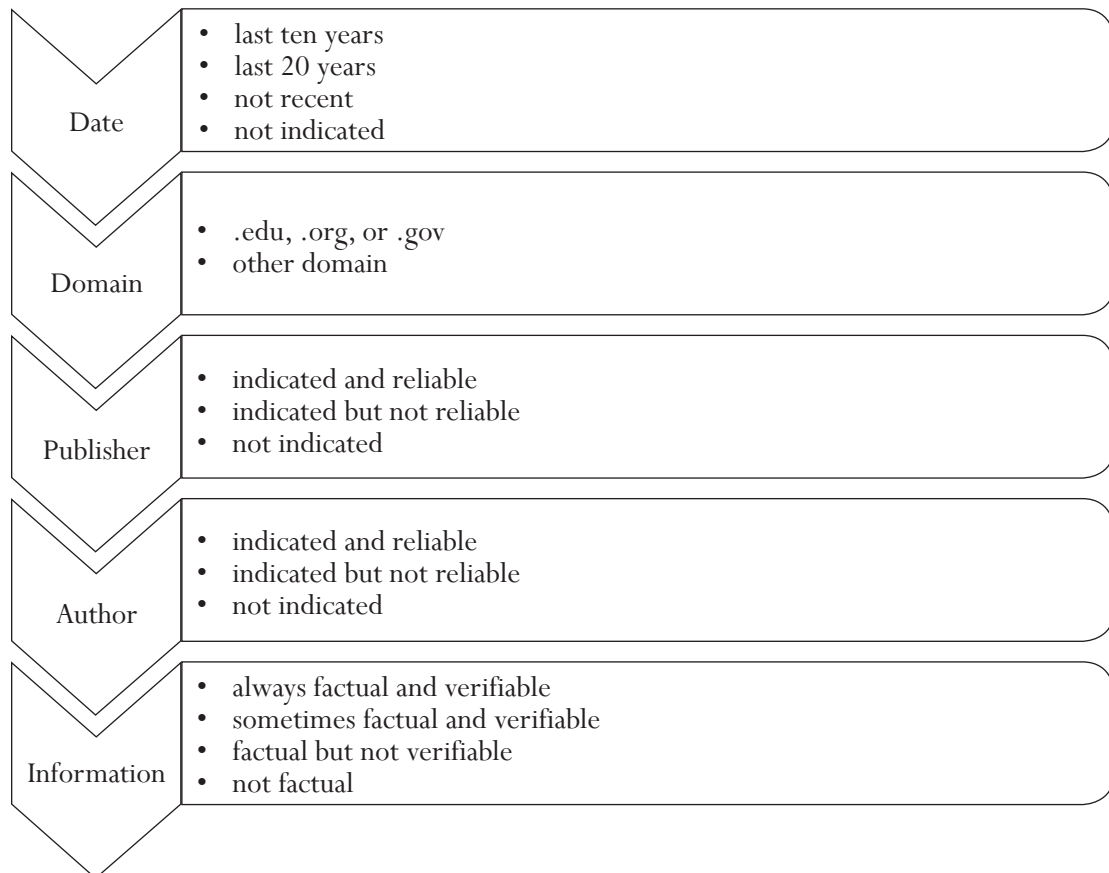


Figure 2. Website credibility checklist

Text 1			Text 2		
Information	Fact/Opinion	Reliability	Information	Fact/Opinion	Reliability
The war began on March 19.	Fact	Verifiable	The war began for economic reasons.	Opinion	Unofficial source: protestor

Table 3. Organizer for determining the credibility of a text

Strategy 3: Consolidate information and keep track of sources

Online reading is not linear. Online readers, unlike print readers, do not follow a predetermined path set by the author of one single text at a time. Instead, they choose their own paths, deciding for themselves which links to follow and whether to return to the original text. Reading in this manner disrupts the natural flow and logic that result from the carefully crafted argument laid out in a single text. As a result, online readers must continually synthesize and organize information if they hope to create a logical and coherent picture.

Moreover, the number of sites accessed and the speed with which readers jump from site to site make it easy to lose track of sources and which information came from which article on which site. Keeping a careful record of sources therefore becomes crucial when carrying out online research.

Teaching the strategy and guided practice

Once again, graphic organizers can help readers consolidate information from multiple sources. Table 4 is a sample handout where

online readers can note down the full citation of and key ideas from each source. They also have room for personal reactions to what they have read and for questions raised by the text that they need to explore through further research. Finally, the table provides a section for synthesizing information from all the sources. This table allows readers to log information, keep track of sources, and begin the prewriting process through synthesis.

The layout of the graphic organizer depends greatly on the type of research being carried out and the final outcome expected from the learner. An argumentative essay presenting both sides of an issue—for and against—might be better served with the graphic organizer shown in Figure 3, on page 10. The more practice students have with using different types of organizers, the more skilled they will become at consolidating information.

Once students have been introduced to a number of different types of graphic organizers, instructors can begin to encourage learners to select the most appropriate way to organize information on their own. By

Source (full citation)	(Source 1)	(Source 2)	(Source 3)
Key points			
My comments			
Questions raised			
Synthesis			

Table 4. Form for synthesizing information

The more practice students have with using different types of organizers, the more skilled they will become at consolidating information.

gradually reducing scaffolding during online reading and researching activities, instructors can help their students become more autonomous.

CONCLUSION

Learners today are expected to read efficiently and effectively online. The time has come to provide them with sufficient strategy training and practice to meet these expectations.

Findings from research conducted over the past decade point to the substantial differences between print and digital reading and the need to practice both fluency and strategies using digital texts. This article has offered instructors strategy-training activities and graphic organizers designed to help learners with three important strategies when reading online: focusing on the reading purpose, determining text credibility, and consolidating information. The activities are easy to

implement and can be adapted for a wide range of instructional settings. Now even the most technologically reluctant instructor can provide the necessary guidance and practice to equip learners with the tools they need to improve their online reading speed and comprehension.

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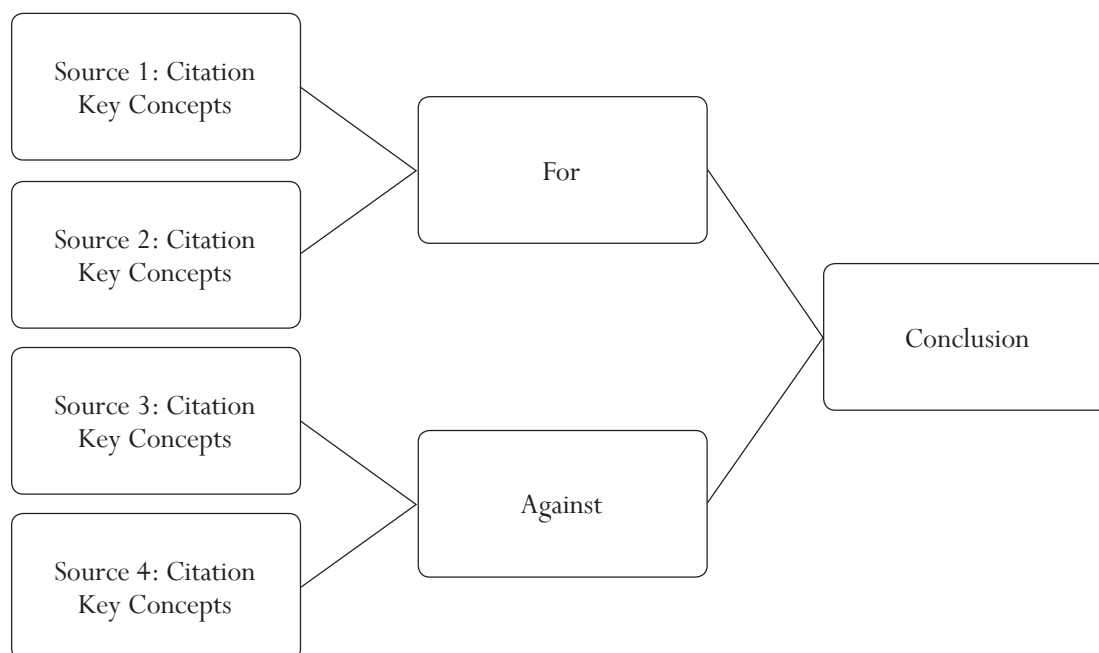


Figure 3. For/Against multiple-source graphic organizer

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