Taking Notes and Developing a Thesis

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Talk About It
Your Turn
Tech Tool in this presentation
Google Docs
In sports, teams don’t win without solid information. Coaches have extensive reports and statistics on everything there is to know about their teams—and about their opponents.
Introduction

Solid information is also vital in research. The notes you take from your sources should give you all the information you need to create a clear, well-supported research paper.
You began your research project by finding a topic of interest and locating reliable sources of information on that topic.

Now you need to extract relevant information and ideas from your sources.

If you follow the steps for taking accurate notes, you will lay the foundation for a successful research paper.
Taking notes

Your goal is to create an objective paper with substantial evidence in support of your thesis. Look through your sources for four kinds of documentation:

- Facts
- Statistics
- Examples
- Expert opinions
Facts are true statements that can be measured, documented, verified, or replicated.

When wind spins the blades of a wind turbine, it generates electricity by turning a generator.

Statistics are an analysis of numerical facts and data.

The amount of electricity generated by wind power in the United States today is three times what it was in 1998.
Research Tip
Forms of documentation

Examples are specific instances that represent a general rule. Examples show a pattern or a precedent.

Windy states such as Kansas are among the Great Plains states that could fill 10 to 25 percent of their electricity needs with wind power.

An **expert opinion** is the qualified judgment or appraisal of a specialist or authority in the field.

“Wind energy is one of the safest energy technologies, and enjoys an outstanding health and safety record.” –The British Wind Energy Association
Taking notes

As you take notes, don’t simply skim sources for tidbits of information. You must understand the larger context of the ideas and support that you find.

Read each source to ensure that you understand the overall meaning of the information. If you extract a sentence from a source without understanding the larger message, you might misrepresent the source or yourself.
Taking notes

Find information that reflects the meaning of the source. Do not take information out of context.

Finally, ensure that the information you take notes on answers one or more of your research questions.
Follow these guidelines when taking notes:

Use a separate index card for each note, or keep individual notes separate in a computer file.

Include the source number for the source from which you took the information. Do not rely on your memory.

3. Wind turbines produce more electricity during the winter than they do during the summer, given the same wind speeds. This is because cold air is more dense than warm air. Density is one factor that, when increased, increases wind power.
Reasons people are using wind power

4 People are using wind power today because they have realized that we are running out of fossil fuels and that burning fossil fuels is hurting the environment. p. 1
Tech Tip

Taking notes

Use Microsoft Excel or Word to create a notecard form that you fill in on your computer. The form should include all the fields you need so you don't forget something. Below is an example of a table in Word.

<table>
<thead>
<tr>
<th>Source number:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Page numbers:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location of original source:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date card was made:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paraphrase</th>
<th>Summary</th>
<th>Quotation</th>
<th>(circle one)</th>
</tr>
</thead>
</table>
One tool that can become indispensable to your research is Google Docs.

Google Docs provides a space to upload documents, keep notes from your research, and publish your research so that others can see what you’ve learned.
Tech Tool: Google Docs

If you wish to create a new Google Docs file, click New on the toolbar.

You can create a document, a presentation, or a spreadsheet. You also can simply upload a document you created elsewhere.
Tech Tool: Google Docs

The Edit tab allows you to make changes to your notes.

The Insert tab allows you to insert a comment, a hyperlink, or a bookmark.

The Revisions tab shows the changes you have made over time.
Tech Tool: Google Docs

You can invite your peers to edit your work.

You also can hide work you do not want them to see.
You may want others to be able to view but not edit your document.

- Click Share in the upper right corner of the document.
- Enter the e-mail addresses of those to whom you wish to show the document. Click As Viewers. Then invite them to view by sending the e-mails.
Tech Tool: Google Docs

Because Google Docs stores your information online, your information is always accessible.

You also can access your research from any computer with Internet access: at the library, at a friend’s house, at school, or elsewhere.
Taking notes

There are three types of notes—direct quotations, summaries, and paraphrases—and you probably will use all three in your research project.

No matter what kind of notes you are taking, you should concern yourself with the pertinent information in your source, not with every bit of detail the source presents.
A summary is a highly condensed version of the original document. Usually it is one-fourth to one-third of the original document’s length. However, the length is not as important as your ability to synthesize the relevant points.
Like old fashioned windmills, today’s wind machines use blades to collect the wind’s kinetic energy. Windmills work because they slow down the speed of the wind. The wind flows over the airfoil-shaped blades causing lift, like the effect on airplane wings, causing them to turn. The blades are connected to a drive shaft that turns an electric generator to produce electricity.

The wind turns the blades of a wind turbine, turning a drive shaft connected to a generator, and producing electricity.
Summarizing information

Why is the summary on the previous slide a good one?

- It is **highly condensed**.
- The summary writer did not simply substitute synonyms for some of the words of the source. The information from the source is recast in the writer’s own words and style.
A **paraphrase** recasts the information in a passage in your own words and style.

A paraphrase is generally about the same length as the original passage.
Paraphrasing information

Read the original passage and its paraphrase below.

American colonists used windmills to grind wheat and corn, to pump water, and to cut wood at sawmills. As late as the 1920s, Americans used small windmills to generate electricity in rural areas without electric service. When power lines began to transport electricity to rural areas in the 1930s, local windmills were used less and less, though they can still be seen on some Western ranches.

American settlers used wind power to perform tasks such as grinding grain, cutting wood, and pumping water, and it was later used to produce electricity. By the 1930s, power lines were available in many rural areas, and windmills fell out of favor.
Paraphrasing information

Why is the paraphrase on the previous slide a good one?

- It is **about the same length as the original.**
- The information from the source is **recast in the writer’s own words and style.**
Paraphrasing information

When you paraphrase, do not simply substitute synonyms for the author’s words. If you do, you will be guilty of plagiarism.

The key is to **synthesize**—to combine the most important details, eliminating the unnecessary ones. The resulting paraphrase retains the essential facts.
Using direct quotations

Use a **direct quotation** when an author uses interesting, well-phrased language that you want to capture exactly.

“Wind energy is a form of solar energy, created by circulation patterns in the Earth’s atmosphere that are driven by heat from the sun.”—American Wind Energy Association

Another good time to use a direct quotation is when you want to ensure the technical accuracy of a passage.

“In 2005, wind machines in the United States generated a total of 17.8 billion kWh per year of electricity, enough to serve more than 1.6 million households.”—Energy Information Administration
Using direct quotations

Do not use a very long quotation or an extended string of quotations unnecessarily.

6. “The wind resource in the United States is vast. Using today’s technology, there is theoretically enough wind power flowing across the country to supply all of our electricity needs. North Dakota alone could supply about one third of the nation’s electricity.”

6. The United States is so windy that wind turbines could generate enough electricity to power the entire country. “North Dakota alone could supply about one third of the nation’s electricity.”
Research Tip
Direct quotations

If you want to quote some but not all of a passage, use ellipsis points to indicate that words have been omitted.

6 “Wind power is a form of renewable energy—energy that is replenished daily by the sun. As portions of the earth are heated by the sun, air rushes to fill the low pressure areas, creating wind power.”

Use square brackets [] to indicate a letter or word that you inserted or changed to make the sentence clearer.

6 “Wind power is a form of renewable energy . . . As portions of the earth are heated [daily] by the sun, air rushes to fill the low pressure areas, creating wind power.”
Developing a thesis

After you’ve taken notes, proceed with **synthesizing your information** by re-reading your notes and asking yourself questions about what you have learned.

- How do these pieces of information answer my research questions?
- How do they fit together?
- What larger conclusion do they all point to?
Developing a thesis

Write a **preliminary thesis statement** based on the answers to your questions.

A thesis statement is an act of synthesis. It pulls together all your information and transforms it into something of your creation, much as ingredients combine to make a cake.

A thesis statement expresses both your topic and the conclusions you have drawn about it. The thesis statement tells your audience what they will find as they read your report.
Developing a thesis

Your thesis should be:

**Specific**: It should focus your entire paper.

**Assertive**: You researched, so you know the facts.

**Persuasive**: You are setting out to prove your point.

**Unique**: No one wants to read “the same old thing.”

**Thesis statement**: The use of wind power in the United States will increase as technological advances make wind power more affordable and more efficient.
Developing a thesis

Your preliminary thesis statement will keep you on track as you continue to take notes, organize your information, and write a draft of your research project. You can revise and adjust your thesis statement as necessary as your research progresses.

Revised thesis statement:

The use of wind power in the United States will increase as technological advances solve problems with the current technology and make wind power more affordable and more efficient.
Conclusion

Just as a football coach relies on reports and statistics about his opponents and his own team, so you must rely on solid information when you are doing research.

If you take good notes from a variety of quality sources, you will have all the information you need to craft a successful research project.
Discuss these questions with your classmates.

1. Why do you think some writers use too many direct quotations? How can you give your work authority while avoiding over-quoting?

2. How would using Google Docs facilitate your research?

3. When would you summarize a passage rather than paraphrasing it?

4. What mistakes have you made in taking notes in the past? Why did you make those mistakes?
The oil shortages of the 1970s changed the energy picture for the country and the world. It created an interest in alternative energy sources, paving the way for the re-entry of the windmill to generate electricity.

Support for wind development has since spread to other states, but California still produces more than twice as much wind energy as any other state.
The End