

Taking Notes: React to what you read

Taking notes will help you to understand what you read and will save you effort in the future. When you have just read a paper, you may understand it well. The definitions are clear, the charts show correlations at a glance. But next week, when you are writing a report on this subject, or next year, when you need to refer to the paper again, it may not be so clear.

Highlight major points

On papers you plan to keep, underline main points or mark them with a line in the margin; make notes so that new ideas will stand out. When you find a definition of a new term, abbreviation or acronym, write “def” in the margin. When you find an example that clarifies a point, note that in the margin.

When you see a chart or table, examine it. Figure out what its significance is. What trends does it show? What correlations? Write a note explaining it in your own way.

React to the points in the paper

If you see a correlation to other work, note it in the margin. If you doubt a statement, note your objection. If you find a pleasing quotation, write it down.

Construct your own example

This can tell you if you understand the definitions and terminology, give you insight on why a theorem or result holds, and expose aspects not covered by the examples in the paper.

Summarize what you read

When you have digested an article, write a short summary. In your own words, state what you learned from the paper. What were the main points for you? Keep the summary with the article for future reference.

Reacting to what you are reading gets you emotionally involved in the argument. Emotion emphasizes what is said, making it easier to remember. Writing a summary helps to relate the paper to what you already know, again aiding memory by tying into your framework for the subject. The summary also serves as a reference when you need to return to the paper.

Summary: How to read a paper

Preparation

- Quiet place.
- Pencil, paper, photocopy of article.

Deciding what to read

- Read title, abstract.
- Read it, file it or skip it?

Read for breadth

- What did they do?
- Skim introduction, headings, graphics, definitions, conclusions and bibliography.
- Consider the credibility.
- How useful is it?
- Decide whether to go on.

Read in depth

- How did they do it?
- Challenge their arguments.
- Examine assumptions.
- Examine methods.
- Examine statistics.
- Examine reasoning and conclusions.
- How can I apply their approach to my work?

Take notes

- Make notes as you read.
- Highlight major points.
- Note new terms and definitions.
- Summarize tables and graphs.
- Write a summary.

An online version of this document can be found here:
<http://www.cse.ogi.edu/~dylan/efficientReading.html>
Thanks to Dave Maier for additional suggestions.

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Efficient Reading of Papers in Science and Technology

This brochure provides an approach to help you read scientific papers efficiently and effectively.

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version of January 6, 2000