How to Write an “Experimental Procedure”

The “Experimental Procedure” section of a formal lab report, also known as “Methods”, is the section where you tell your readers how you performed the experiment. Using your lab manual, handouts, and notes taken during the lab as a guide, describe in paragraph form the experimental procedure you followed. Be sure to include enough detail about the materials and methods you used so that someone else could repeat your experiment based on your description.

Begin by reviewing the directions in the lab manual and any notes you took as you did the lab. If it is a complex procedure, make a rough outline of what you did. Write the procedure in paragraph form, not in bullets. Keep the paragraphs relatively short because it's hard for readers to process detailed information like this without sufficient breaks.

Describe what you actually did in your own experiment, even though it may be somewhat different from the ideal procedure in the manual. This section should be an accurate reflection of what you did. Avoid putting any results of the lab in the Methods. Just describe what you did, not what you found.

If your lab is complicated, perhaps consisting of more than one experimental procedure, then consider dividing this part into sections with subheadings. If you used what is considered a standard procedure (one that competent scientists in the field are likely to be familiar with) then there is no need to describe it in detail. Simply state that you used that procedure, being sure to give its common name.

When describing an apparatus or instrument, make sure you include the brand name (manufacturer) and the model number in your writing. It is also important to include specific parameters that you used to run the instrument.

Use the proper past tense and passive voice. Methods are usually written in past tense because you are describing what you have already done. They are also typically written in passive voice (e.g., "2 ml. were pipetted into a test tube").

More Helpful Hints:

- To make your description of the experimental procedure clear, use appropriate transitional or "sign post" words that indicate a sequence and help the reader follow the sequence: first, then, after, next, later, following; etc.
- Include the methods you used for both gathering data and analyzing the data.

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