

Hierarchy of Goals for Writing a Scientific Paper

When writing, your first focus should be on the main message you want to convey. Avoid focusing on details during early stages of writing. Only after you have organized your ideas is it time to work to your way down to more structural details (e.g., sentence building, best word choice, formatting).

Use the following five-level hierarchy as a guide to build your paper.

- Levels 1, 2, and 3 address *conceptual goals*: the story of your paper.
- Levels 4 and 5 address *style goals*: how you convey your story in writing.

Competence at all five levels is essential to a well-written paper.

LEVEL	GOAL
1. Content	<u>Gather all content necessary to tell a coherent story.</u> <ul style="list-style-type: none">• Selectively search the research literature• Read the articles and identify their relevance to your paper• Determine the main points from each article• Determine the main points for your paper
2. Organization	<u>As you establish content, organize.</u> <ul style="list-style-type: none">• Focus on how to tell the story of the paper:<ul style="list-style-type: none">- Use topic and summary sentences to frame each paragraph- Use transitions to link paragraphs to each other• Write paragraphs in an “hourglass” style: general→specific→general• Check for completeness, coherence, and relevance of information
3. Critical Thinking	<u>Support your arguments and theories with evidence.</u> <ul style="list-style-type: none">• Distinguish between objective and subjective information• Support arguments with evidence• Use original words and ideas• Identify what to cite. If you’re not sure, cite.
4. Structure	<u>Aim for clear sentence structure.</u> <ul style="list-style-type: none">• Organize sentences from familiar to unfamiliar information• Use meaningful transitions to link sentences together• Use one idea per sentence (or else convey multiple ideas clearly)
5. Grammar, Wording, Formatting	<ul style="list-style-type: none">• Check grammar and spelling• Revise words<ul style="list-style-type: none">○ Aim for simplicity and clarity○ Eliminate unnecessary words• Follow formatting guidelines. Use accurate citation format.

Hierarchy of Goals for Writing a Scientific Paper: Think About the Big Picture

Details are carefully selected pieces of a larger picture. Conceptually, details carry little weight on their own. They derive their power from the context in which they are presented. Trying to start writing with heavy detail is like trying to paint a portrait by first depicting the eyelashes and wrinkles. The fact that you are painting a face may be clear, but the individual you are painting is lost. If main ideas are not framed and organized at the beginning of a paper, the quality and choice of your details lose their potential.

Below is a flow chart of the writing hierarchy, showing how to build a paper from the foundation (conceptual goals) to the final steps (style goals). In general, the scope of your writing should narrow as you move down the hierarchy.

