

# Clear Scientific Writing: Tools for the Writing Process

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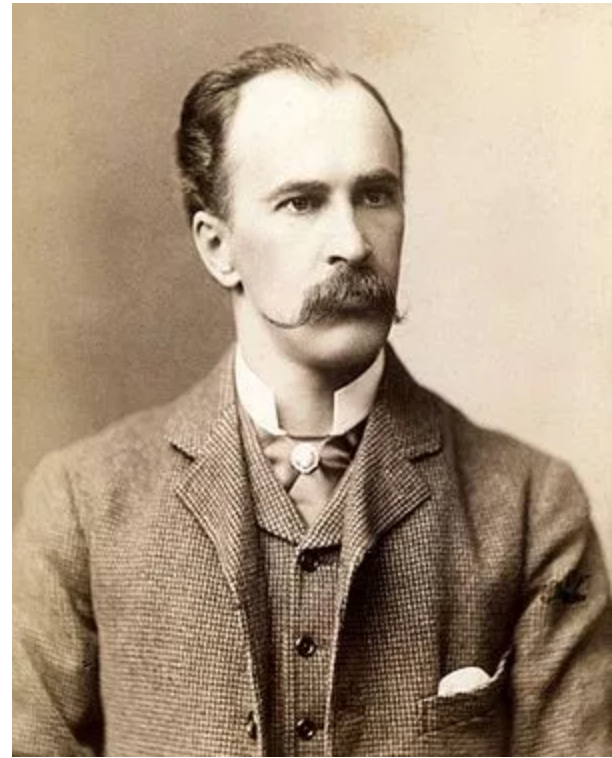
[writingcenter.uh.edu](http://writingcenter.uh.edu)

# Clear Scientific Writing

- Why is this kind of writing important?

“In science, the credit goes to the man who convinces the world, not to the man to whom the idea first occurs.”

--Sir William Osler



This is high-stakes writing!

# Clear Scientific Writing

- Why is it high stakes?
  - Funding grants
  - Conference proceedings/paper publication
  - Proposal acceptance

You have to learn to write well to communicate your ideas effectively!

# Why Talk About Process?

Writing doesn't "just happen;" it's a process

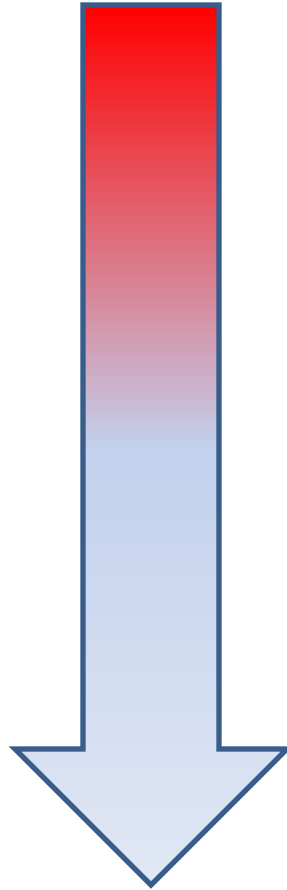
- A good process will help you consistently create a good product
- Process requires the right tools to work well



# Game Plan: Two Lectures

Today:  
Higher order  
writing  
concerns

Next time:  
Lower order  
writing  
concerns



- Genre/Audience/Purpose
- Thesis
- Paragraph Development
- Organization
  
- Sentence structure
- Punctuation
- Word choice
- Spelling

# Genre

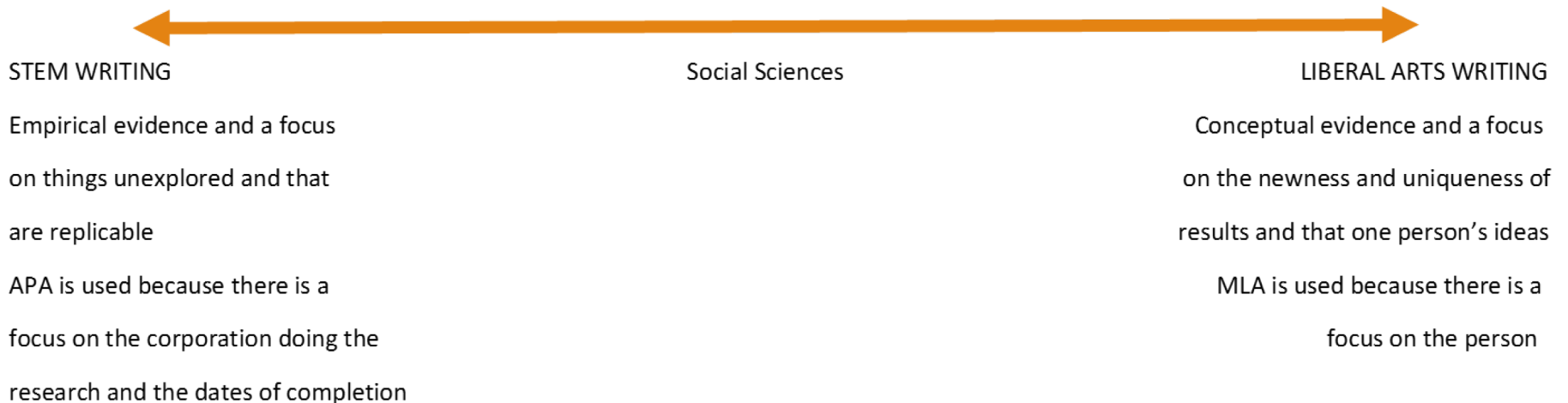
In writing, genre is the type of writing you are trying to complete. Different genres of writing can include:

- Professional documents like resumes, cover letters and even emails
- Academic examples include technical reports, dissertations, grant proposals, journal articles, abstracts
- Other examples include poetry, fiction books, news writing
- Knowing the type of writing you are trying to complete is an important factor in determining how you will approach the writing task.

# Genre

In addition to the different genres of writing, it is also important to consider your field of study and what type of writing is appropriate to your discipline

## Academic Writing Spectrum



# Common Qualities of ALL Longer Writing

1. Formulates a clear question that your writing seeks to answer.
2. Reviews the literature in the field relating to your question.
3. Engages in independent research in addressing this question.
4. Justifies whatever methods you choose to undertake your research.
5. Presents and discusses your findings while demonstrating how they relate to your original question.

[Sheffield Hallam University Guidelines to a Dissertation](#)



# Audience

- Who are you targeting?
- Why consider them?
  - Be on the same page with them, so...
  - They can keep up with you
- How to do it?
  - Boil down ideas
  - Make the ideas EASY to understand and show the connections between ideas

# TOOL #1: AUDIENCE ANALYSIS

## Questions for consideration

- Who is your audience?
- Do you think your audience is interested in the topic? Why or why not?
- What does your audience already know about the topic?
- What does your audience need to know about the topic?
- What experiences has your audience had that would influence them on the topic?
- What do you hope the audience will gain from your text?

# Exercise 1: Know your audience

Your starring in an informational video about UH. What would you say and how would that change based on your audience?

- What would you say to...
  - A high school student thinking about coming to UH
  - An alumni thinking about donating to COSC
  - A new graduate student in COSC



# Purpose



- Why consider it?

If you don't have a point or purpose why write anything at all???

- Identifying purpose

1<sup>st</sup> Identifies gaps in knowledge  
(problem)

2<sup>nd</sup> Fill gaps in knowledge or  
attempts to identify an answer  
(solution)

# Exercise 2: Name your Audience & Purpose

Write on a piece of paper what you are writing about or the PURPOSE of your research.

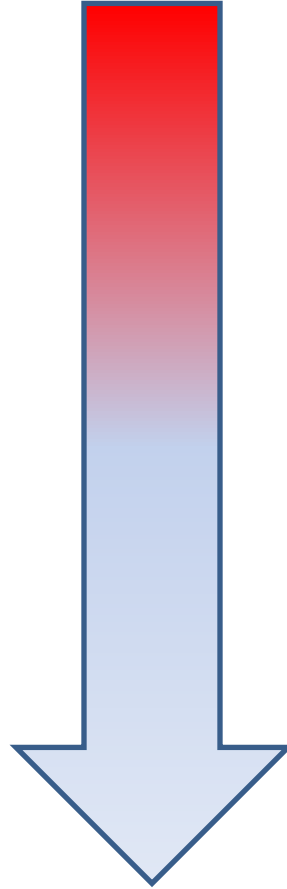


Then, after you have stated the purpose, identify your audience. What do they know, what don't they know, what do they need to know.

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# Thesis

## Writing Strategy: Think about Purpose



<http://leo.stcloudstate.edu/acadwrite/thesistatement.html>

# TOOL #3: Intro/Conclusion Questions

- Introduction

- “What question are you trying to answer?”
- “What is the context for your work?”
- “What are you trying to accomplish?”



Start

- Conclusion

- “So what?” / “And?”
- “What have I already said?”
- “How does it all fit together?”
- “What are the implications?”



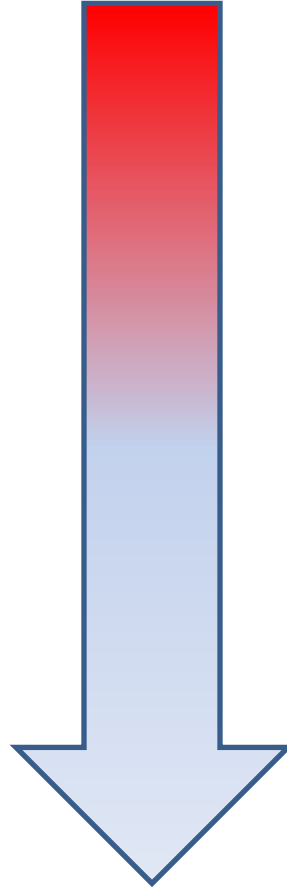
<http://writingcenter.unc.edu/handouts/conclusions/>



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# Paragraph Development

- Identify the Problem

At each level of the writing process, you are providing a solution to a specific kind of problem.

- Paragraph level: topic problem

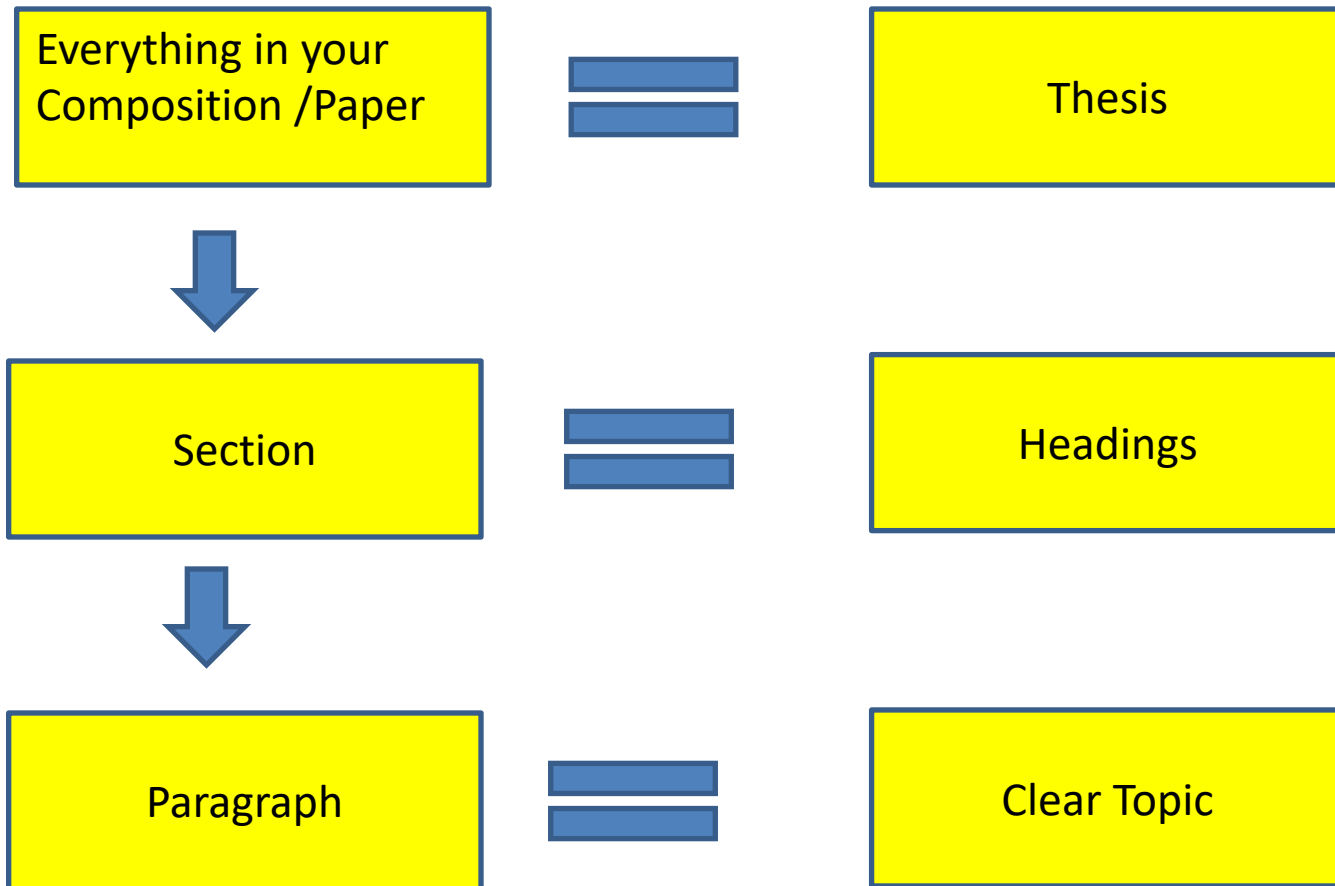
Topic sentence

Topic development

Conclusion/transition

Paragraph purpose: develop a single idea (topic) for writing that connects to main idea

# Writing Strategy: Think about Paragraph Development



# TOOL #4: TYPES OF PARAGRAPH DEVELOPMENT

## **Development by detail**

- Expand on a general topic sentence using specific examples or illustrations

## **Development by comparison and contrast**

- Describe two or more things which have something, but not everything, in common

## **Development by process**

- Describe something going step-by-step, usually in chronological order

## **Development by combination**

- Combination of one or more types listed above

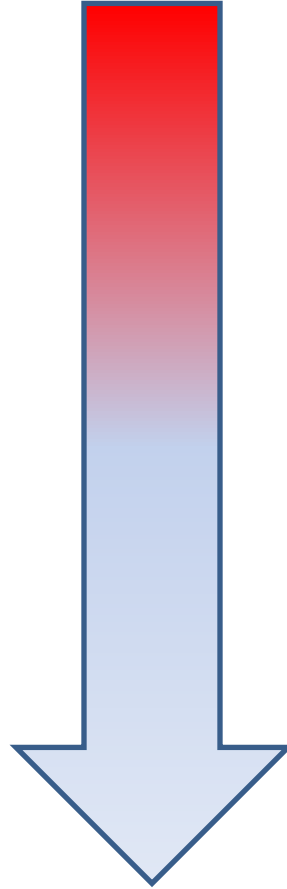
# Exercise 3:How will you Develop?

- Think of some of the areas that you have to discuss within your research paper. How will those paragraphs develop? What types of paragraph development will you use?
- If you do not know what you will need to discuss take a second to outline the topics you will need to include in your research

# Game Plan: Two Lectures

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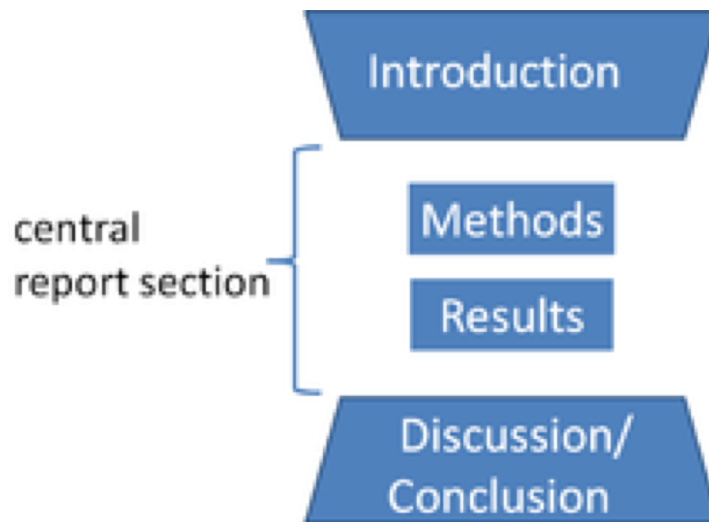
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# Organization: REMEMBER IMRaD

In scientific writing, **IMRaD** (Introduction, Methods, Results, and Discussion) refers to a common organization structure. **IMRAD** is the most prominent norm for the structure of a scientific journal article of the original research type



# TOOL #5: REVERSE OUTLINING

- In the left-hand margin, write down the topic of each paragraph. Try to use as few words as possible. When revising your own work, these notes should tell you if each paragraph is relevant to your research topic

Purpose: When revising, these notes should tell you if each paragraph is focused and clear.

- In the right-hand margin, write down how the paragraph topic advances the overall argument of the text.

Purpose: When revising, these notes should tell you if each paragraph fits in the overall organization of your paper. You may also notice that paragraphs should be shifted after completing this step.

<https://owl.english.purdue.edu/owl/resource/689/1/>



# Exercise 4: Self-Assessment

- Incorporate these 5 tools into your writing process
  - Audience analysis
  - Examples of purpose
  - Introduction/conclusion questions
  - Types of paragraph development
  - Reverse outlining
- Learn how to self-assess a piece of writing
- Examine your writing process

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