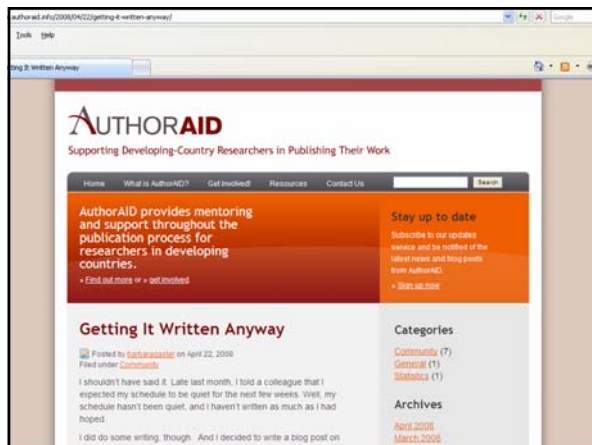


## How to Develop a Manuscript: Part 1

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## Accessing AuthorAID

[www.authoraid.info](http://www.authoraid.info)

## Main Source



*How to Write and  
Publish a Scientific  
Paper*, 6th edition, by  
Robert A. Day and  
Barbara Gastel  
(Greenwood  
Press/Cambridge  
University Press, 2006)

## Overview

- General thoughts
- Section-by-section advice
  - Methods, Results, Introduction, Discussion
  - References
  - Title and Abstract
- Open discussion

## General Comments

- Writing a scientific paper is largely a matter of organization.
- Writing a publishable scientific paper generally entails writing several drafts.
- You can start by writing whichever part of the paper you find easiest.
- Note: Other speakers also will contribute to this presentation.

## The IMRAD Format for Scientific Papers

- **Introduction:** What was the question?
- **Methods:** How did you try to answer it?
- **Results:** What did you find?
- **Discussion:** What does it mean?
- A format used in some journals: IRDaM
- People read sections in various orders.

## Methods

- **Purposes:** to allow others to replicate and to evaluate what you did
- Should describe the study design
- Should identify (if applicable)
  - Equipment, organisms, reagents, etc used (and sources thereof)
  - Approval of human or animal research by an appropriate committee
  - Statistical methods

## Methods (cont)

- May include tables and figures
- An issue: level of detail in which to describe
  - Well-known methods
  - Methods previously described but not well known
  - Methods that you yourself devised
- Helpful to use papers published in the same journal as models

## Results

- The core of the paper
- Often includes tables, figures, or both
- An issue: how much the information in the text should overlap with that in the tables and figures
- Should present results but not comment on them

## Tables: A Few Suggestions

- Use tables only if text will not suffice.
- Design tables to be understandable without the text.
- If a paper includes a series of tables, use the same format for each.
- Be sure to follow the instructions to authors.

## Figures: A Few Suggestions

- Use figures (graphs, diagrams, maps, photographs, etc) only if they will help convey your information.
- Avoid including too much information in one figure.
- Make sure any lettering will be large enough once published.
- Follow the journal's instructions.

## Introduction

- Provides background needed to understand the paper and appreciate its importance
- Identifies the question the research addressed
- In general, should be fairly short
- Typically should be funnel-shaped, moving from general to specific.

## Discussion

- Often should begin with a brief summary of the main findings
- Should answer the question stated in the introduction
- Some other items commonly addressed:
  - Limitations of the study
  - Relationship to findings of other research
  - Implications, applications, or both
  - Other research needed

## Discussion (cont)

- Typically should move from specific to general (opposite of introduction)

## References

- Functions:
  - To give credit
  - To add credibility
  - To help readers find further information
- Importance of accuracy
- Existence of various reference formats
- Availability of citation management software (examples: EndNote, Reference Manager)

## Title

- The fewest possible words that adequately indicate the contents of the paper
- Important in literature searching
- Should not include extra words, such as “a study of”
- Should be specific enough but not overly narrow

## Abstract

- Summarizes the paper
- Widely read and therefore important
- Commonly organized in IMRAD format (may be structured abstract, with headings corresponding to the various sections)
- Content must be consistent with that in the paper
- Normally should not include figures, tables, references

## Questions?



Thank you!

