

Scholarship Skills

Week 9b
Writing Process

Week 9bDavid Maier1

Scholarship Skills

Audience

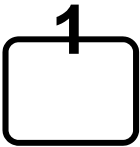
To whom is the paper targeted?
General public
Scientifically literate reader
Computer scientist
Someone in your area
Someone with the same research specialty

Ask yourself what they will know.
definitions, notation, previous results
experimental or analytical methods
mathematical sophistication
knowledge of existing systems

You won't know the answer on a multi-disciplinary paper

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Audience 2

Note that why your results are important will vary by audience.

May be enough that you have a solution to the embedded multivalued dependency implication problem for a group of data dependency theorists
But most audiences will say “So what?”

You can't assume your reader has seen every previous paper of yours.

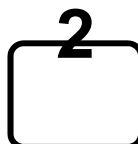
Audience will determine what aspect of your work to emphasize.

Plot

I think the notion of plot is as valid for technical writing as for fiction

Setting the stage
Protagonists and Antagonists
Conflict
Resolution
Denouement

It will help to determine what to include and when



Example Plot

From a grant proposal

- There's a lot of network-accessible data
- too much to browse
- can't do structural query because of lack of regular form
- not feasible to put it under one schema

to much data to restructure

- solution: add incremental, structural info on top of information sources: structured map

- advantages

*incremental
& don't need bulk reformatting*

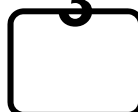
Special Consideration: Preconceived Notions

Take special care if you go against conventional wisdom.

Determine source of these notions

- Particular paper
- Anecdotal evidence
- Failure of some project

Don't hide that your conclusions contradict commonly held beliefs.



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Preconceived Notions 2

Figure out the point of divergence between your results and the common belief

- Misinterpretation or over-application
- Confusion
- Change

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Scholarship Skills

Continuity

You must keep a model in your head of what the reader knows.

Try not to present information far from where it is needed.

Try to build a scaffolding for the reader on which to attach coming information.

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Andrew Black, Todd Leen & David Maier

Organization

Need to organize your work in general to organize your writing.

15% of work time on organization and planning isn't excessive.

Should keep at least a calendar and a to-do list.

Scheduling

Whatever your planning period, make sure you schedule important tasks so you'll actually get to them.

- estimate available time and task times at beginning of day—decide then
- don't schedule 100% of your time

Avoid fragmenting your time.

- don't read email or texts too often
- jot down items to attend to later,

free up the bandwidth

Better to write 1 hour a day for 5-6 days than 8 hours one day per week.



Planning Your Writing Tasks

For anything over a couple pages, useful to figure out what tasks are involved.

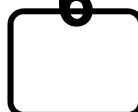
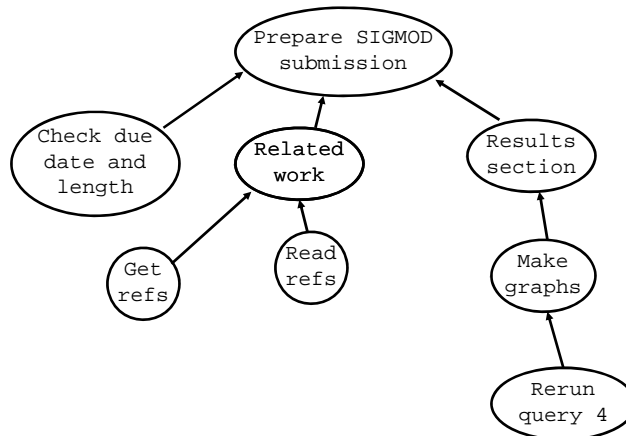
Gives you a better estimate of time required, what's missing

Help determine dependencies, what needs lead time

Help to group related tasks, avoid *thrashing*

When writing for a deadline, you have to schedule by task, not by time slice.

Task Decomposition and Dependencies



Drafts I Go Through

- 1. Notes—points to include, including related papers
- 0. Outline, plot
 - for a short piece, might not be totally ordered
 - more important for a longer piece, to manage increased dependencies
- 1. Longhand draft
- 1.5. Typed-in first draft
- 2. Read, correct, format, check details, add references.
 - try to maintain a model of reader's mental state

Drafts 2

Get opinion of another reader at this point.

- 3. Final draft—includes subsequent proofreading and correction

(Can pipeline the process)

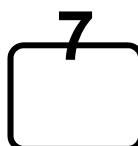
Why first draft in longhand?

Paper is user-friendly, don't get distracted by software

Cross-outs are easy to restore (don't erase)

Can revise faster

Get almost an extra draft for free while typing



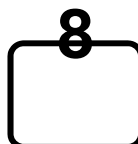
What's Handy When I Write

- A. Outline, notes on references
- B. Jot sheet
 - spare ideas, items to check
 - don't have to keep track about them*
- C. Current page
- D. Previous parts of draft
- Books *(or browser)*
 - Dictionary
 - Thesaurus
 - find a word with a better connotation
 - finding an "unused" term

Style Sheet

For later drafts, on a long piece, I will keep a style sheet for consistency

- spelling
- word choice
- abbreviations
- notational conventions
- designated variables
- formatting



How to Get Started?

(Moody) Collect major formulas, results
Talk to someone else, have him or her take notes (or talk to yourself)

Recount the course of the research

not necessarily the best ultimate organization

Joint outlining: all authors in a room

Start in the middle of the paper possibly
Often easy to write how something works.

Figure out some examples—can help with ordering

What If You Get Blocked?

Write telegraphically

Draw some pictures

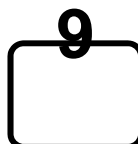
Write (and flag) material you know is wrong

Write arbitrary sentences you want to include

Make yourself write for 5 minutes (and let yourself quit)

might get started

good to do early on—will quickly figure out things you need to assemble



My Favorite Trick

To avoid slow start-up after you take
a break, when you leave off, stop
in the middle of *Section*
in the middle of *paragraph*
in the middle of *a sentence*
in the middle of *word*

and jot down the next point or two to
make.