

Elements of a Good Paper

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Outline



- What makes a good paper?
 - 4 points from experience
- A look at the different components of the paper
- What gets citations?

What makes a good paper?



1. Provides a solution to an important problem
2. Provides new ideas, a new approach, furthers knowledge
3. A quality research study
4. Good academic writing

1. A solution to an important problem



- Usually a big study in a high impact factor journal
- To be differentiated from a
 - A poor study or bad results for an important problem
 - A similar study to address an important problem
 - A survey on issues related to an important problem

2. Filling the gap/ furthering knowledge



- Investigation of previously unexplored issues
 - Current due to deeper understanding or multidisciplinary research
- New findings from equipment with new capabilities
- Revisiting old ground to test assumptions

3. A quality research study



- Investigation conducted
 - Thoroughly
 - Good strategy
 - Deep analysis or results
 - Good discussion
 - Good extension of knowledge

4. Good academic writing



- An eye-catching title
- An engaging opening introduction paragraph
- Focused writing without unnecessary detail
- Unity supported by good transition sentences
- Good assessment of present situation
- Good plan for the study
- Good intertextual conversation
- Informative and clear visuals

4. Tools of the trade



To embark on your writing journey, you need

- Critique of the literature
- Taking the story one step further
- Response to feedback to improve your writing
- Reference to visuals and case studies

Elements of a Good Paper



- Title
- Abstract
- Introduction
- Methods
- Results and Discussion
- Conclusion

The Writing Order



1. Introduction
2. Methods
3. Results
4. Discussion
5. Introduction
6. Discussion
7. Abstract
8. Title
9. Cutting clutter, flow of ideas, editing, proofreading

Sections of the Paper



- Introduction
- Methods
- Results and Discussion
- Conclusion
- Abstract
- Title

Introductions in Different Disciplines

	Science - quantitative	Social sci. - quant.	Social sci. - qualitative	Humanities
Definition of problem	✓	✓	✓	✓
Background/ lit. review	✓	✓	✓	✓
	Hypothesis or objective	Hypothesis	Argument	Argument
				Claims significance

What is the problem?

Why is it interesting/important?

What has been done?

What is missing? Is there a need?

What novel aspect will be revealed?

Introduction



- Background
- Importance, novelty, fresh idea
- Define the challenge? What is the purpose?
- Hypothesis

Methods



- Give a reason for selecting the method
- Describe the study and the measures used
- State new methods (if applicable)
- Describe the analysis

Qualitative study - capture trustworthy data

Quantitative study - capture valid and reliable data, with precision

Results



Picture your results

- Create an informative visual, if possible
- Create pictures from words

Words, when well chosen, have so great a force in them that a description often gives us more lively ideas than the sight of things themselves

Playright Joseph Addison

Results: Choosing the visual format

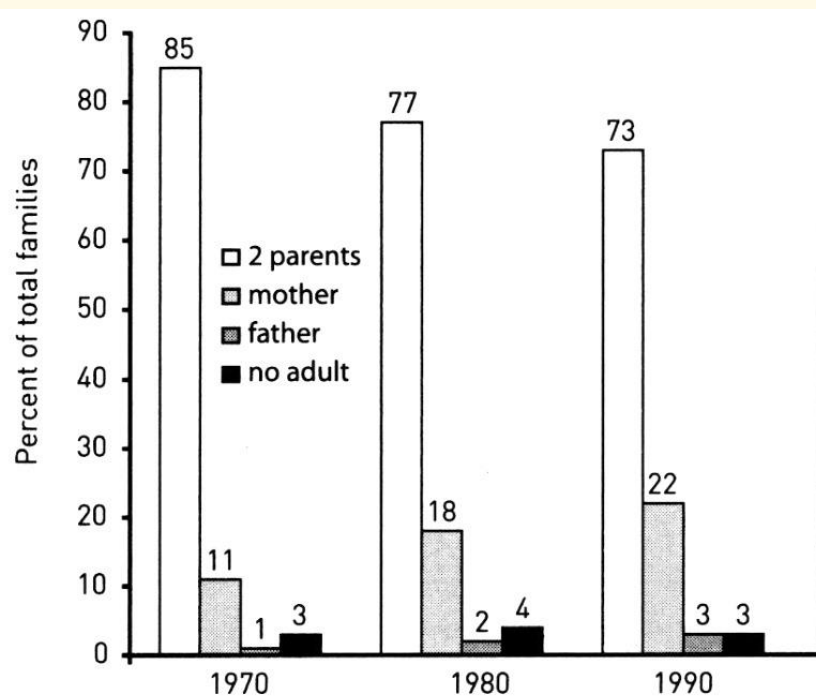


Figure 8.1. Changes in family structure, 1970–2000

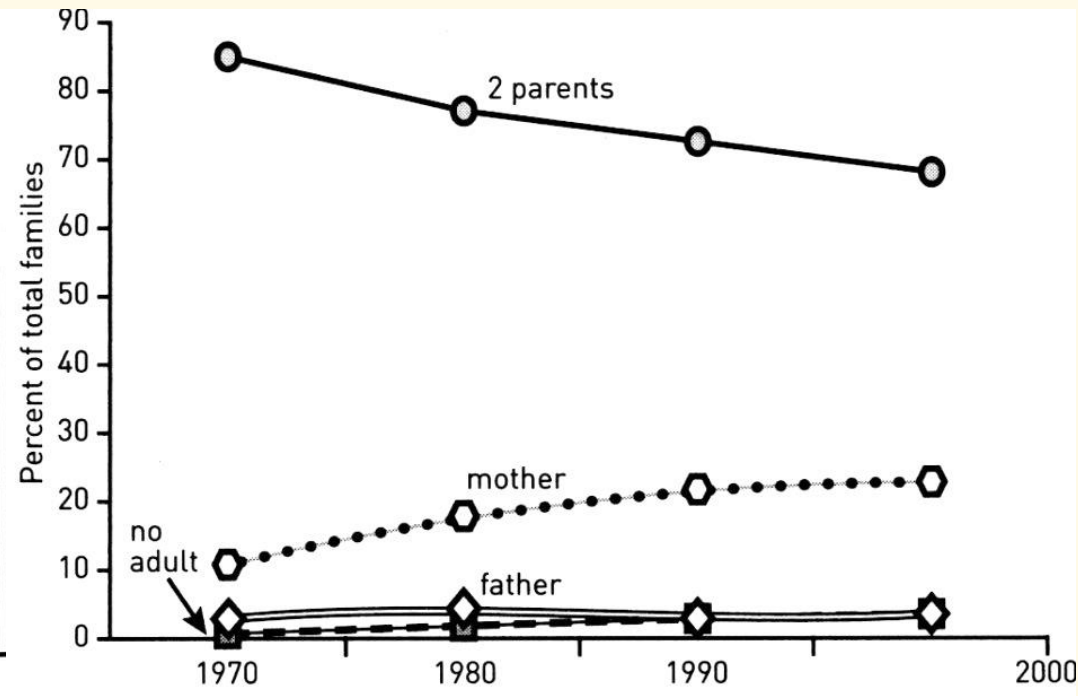


Figure 8.2. Changes in family structure, 1970–2000

- A bar chart emphasized comparisons
- A line graph emphasizes trends

Results: Point to area of interest



... agreed to take care of common small recreation area by Olekte creek and one un-built plot as football field (Figure 5).



, 2011

Neighborhood with common recreational areas: one by the creek and other with football gates (upper right corner) on some empty plot

Results: Use representative data

- Use representative data, not repetitive data
“The compulsion to include everything, leaving nothing out, does not prove that one has unlimited information: it proves that one lacks discrimination”
- ***Present results with crystal clarity***

Discussion



- Analyze the results
 - Are they meaningful?
 - Did they capture the events?
 - Are there new trends?

Discussion



- Relate your results to the work of others
 - Visually, Tables or intertextual conversation
- Is there a new relationship, or info for a theory?
- What are the next steps for future studies?

Discussion: Intertextual conversation



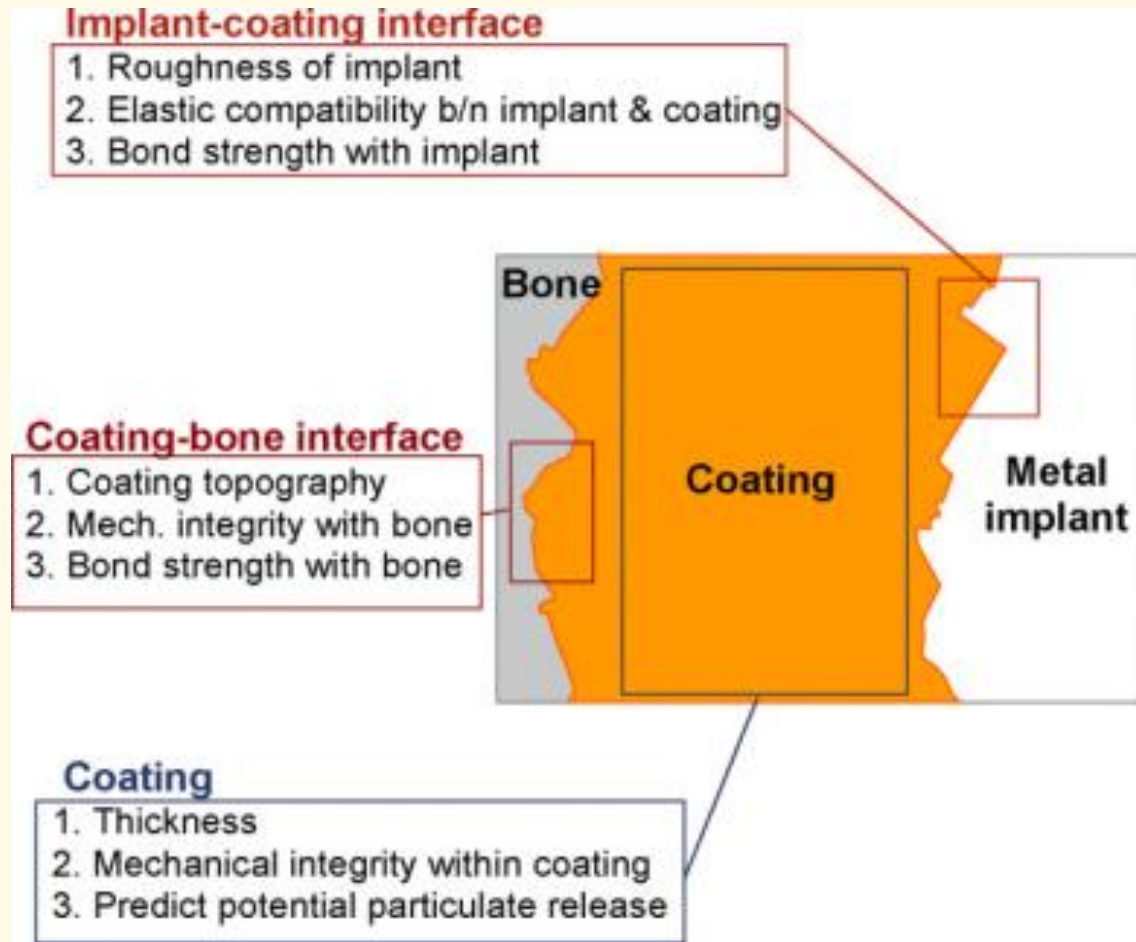
- Frame your quotes

Tormod argues, “Reading and responding to other people’s writing ... makes you a better writer” (45). His argument echoes what several other writers have suggested. Pullisaar, for instance, ... These authors did not consider the value of peer review towards a deeper analysis that enriches the quality of writing.

Paraphrasing

Villa emphasizes a number of factors that shape writing expectations: culture (12); age (23); discipline (121); and environment (176). One that he neglects to mention is medium.

Future work



Evaluation of commercial implants with nanoindentation defines future development needs for hydroxyapatite coatings.

J Biomed Mater Res
Part B: Appl Biomater 93B:
1–8, 2010

On May 7, 2014
SCOPUS
Cited 25 times

Figure 7. A schematic of coating information determined from nanoindentation and microscopy.

Conclusions



- Keep it simple
- For more info., choose an alternative heading
 - Concluding remarks
 - Conclusions and future directions

Abstract



1. Motivation/problem statement:

Why do we care about the problem?

What practical, scientific, theoretical or artistic gap is your research filling?

2. Methods/procedure/approach:

What did you actually do to get your results?

3. Results/findings/product:

What did you learn/invent/create?

4. Conclusion/implications:

What are the larger implications of your findings, especially for the problem/gap identified in step 1?

<http://research.berkeley.edu/ucday/abstract.html>

The Title



Unique. Differentiates your title from others

Lasting. Do not use *new* in the title

Concise. Remove details if title is unique

Clear. Avoid long modified nouns.

Easy to find. Choose keywords carefully

Honest & representative. Set expectations & answer them

Catchy. You only have 2 seconds :)

Title of your written work



First impression to the reader in a database
Should be a good summary and informative

Declarative

- most informative
- emphasize technical side of research

Interrogative

- less common, except for literature review articles

Descriptive

- most common

Three most common title formats



Declarative

state the main findings or conclusions

‘A three-month weight loss program increases self-esteem in adolescent girls’

Interrogative

introduce the subject in the form of a question








‘Does cognitive training improve performance on pattern recognition tasks?’

Descriptive

describe the subject but don't reveal the main conclusions

‘The effects of family support on patients with dementia’

1. What do you find most difficult about writing? You may choose more than one answer.

#	Answer	Bar	Response	%
1	Time management (starting, finishing, finding time)		882	40%
2	Mechanics of writing (grammar, spelling)		1,027	46%
3	Content (developing ideas, explication, analysis)		1,324	60%
4	Getting it just right (clarity, organization, style)		1,499	68%
5	Sharing with others (grades, feedback)		365	16%
6	Other		179	8%
7	Nothing (writing is not difficult for me)		49	2%

Taken from a class of about 2200 students in 2013

Attention to writing: A good paragraph



A tight academic structure structure

Transition + **One key idea** + **Development of the idea**

A paragraph should also be consistent in structure, that is, **it should complete three functions in order**. First, the paragraph should open with a transition. The transition can be as short as a word or a phrase that was used in the previous paragraph – or as long as a sentence or even two or three... Second, the transition should be followed by a topic or key sentence. Third, the rest of the paragraph should provide support or evidence for the idea in the key sentence. As you revise, you should check each paragraph against this template (Gray, 2005).

P. Goodson. Becoming an academic writer. Sage, 2013

What gets citations?



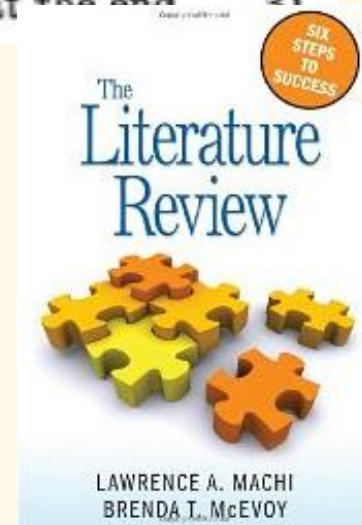
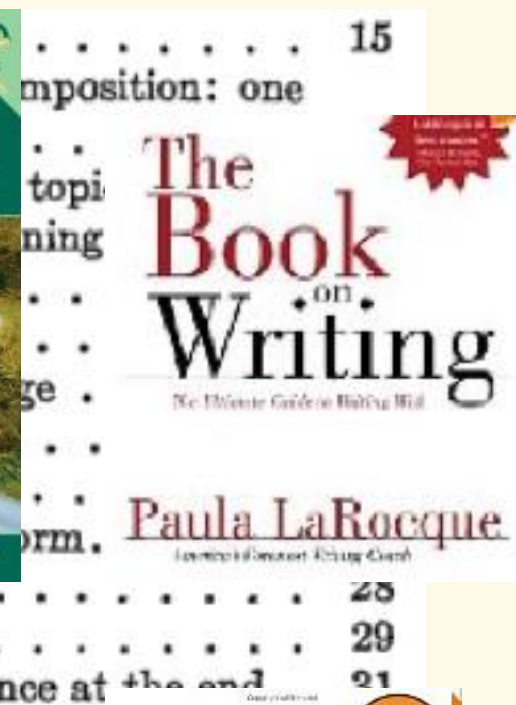
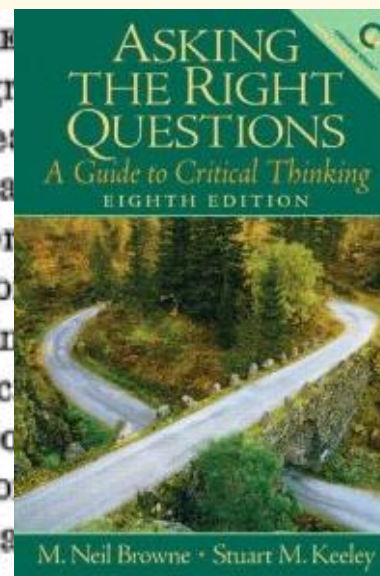
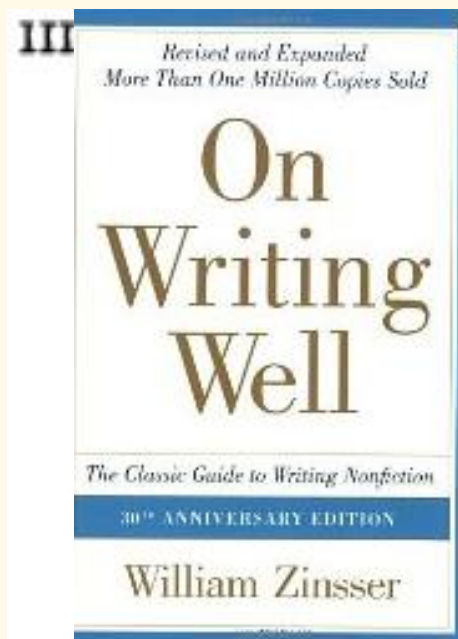
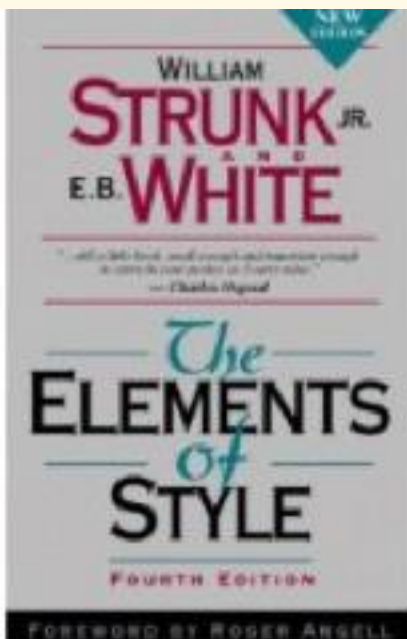
- Follow current trends with new developments
- Relate research outcome to larger community
- New test methods, new processes
- Paper with interesting titles
- Papers with good academic writing
- Review papers


Take home message



- Read and write daily
- Analyze the literature to retain expertise
- Look out for problems to solve with your toolbox

References





What you want is practice, practice, practice.
It doesn't matter what we write So long as we
write continually as well as we can. I feel that every
time I write even if it's thrown into the fire the
next minute, I am so much further along.

C.S. Lewis