Writing Effective One-Pagers

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In a one-page paper, every word should count.

- Main issues from Therac papers
  - Thesis/focus
  - Conclusions
  - Sentences
  - Word choices
- Strategies for revision
- Getting help

Most problems stemmed from an unclear thesis and sentences that were difficult to follow.

- Thesis
  - A thesis makes an assertion.
  - Without a strong thesis, structuring the paper is difficult.
  - A good thesis leads the reader to a strong conclusion.
- Sentences
  - Effective sentences reflect a logical progression of ideas.
  - Carefully-considered word choices are essential to good arguments.

A good thesis is the foundation of an effective one-pager.

"This paper aims to discuss the many problems in hardware design and software testing that led to the tragic Therac-25 accidents."

A good thesis is the foundation of an effective one-pager.

"Without effective software design and exhaustive testing, fatalities can occur and small, but important, details can be missed."

A good thesis is the foundation of an effective one-pager.

"Because the AECL did not have a consistent methodology for testing errors and evaluating users' complaints, programmers did not understand the significance of software problems as they emerged."

How would you make this statement more effective?

"The design and implementation of the ill-fated Therac-25 suffered from many problems as regards its software and hardware."

Crafting a good thesis statement is worth the extra time.

- Without a good thesis, writers have a difficult time selecting evidence and examples from the article.

- When the paper lacks a central argument, making transitions between ideas is difficult.

If I know what I'm arguing, I can select evidence

- "a consistent method for testing errors"

    Which errors should have been tested?

    Why?

    What method should have been used?

    How would the method have helped?

We can use a similar method to fix our vague sample.

- What problems were specific to the design of the Therac 25?

- What problems were specific to the hardware? To the software?

- What was the result or implication of these problems?

Just as the thesis establishes a foundation, the paper's sentences serve to explain and clarify ideas.

- Sentence structure matters.
- Reduce word count through careful editing.
- Know what you are saying.

Sentence structure matters.

"The removal of hardware checks allowed for software errors in other parts of the system like the input interface to compromise the safety of the system as a whole. Based upon information available in the article, it appears that had the traditional safety devices had been installed, all of the accidents would have been prevented."

Reduce word count through careful editing.

- Right now, take your paper's longest paragraph and reduce it by 25%.
- Can you reduce it by 50%?
- How about 75%?

Know what you are saying.

- "Oversight" has two meanings:
  - Error resulting from lack of attention
  - Responsibility

- Which meaning was crucial to your understanding of this paper?

A good one-pager has a structure that is easy to follow.

- The introduction frames the argument.
- Each paragraph makes a focused claim with supporting evidence.
  - In a short paper, your own words are more effective than quotes from the article.
  - Readers need transitions between ideas.
- The conclusion should resolve the problem raised in your thesis statement.

We understand that this work isn't easy.

- Make use of the Writing Program information on the 6.033 web site.
- Get help from the Writing Center.