Writing, Reviewing and Rating Abstracts

Johanna Hannan, PhD
Hannan@urology.wisc.edu

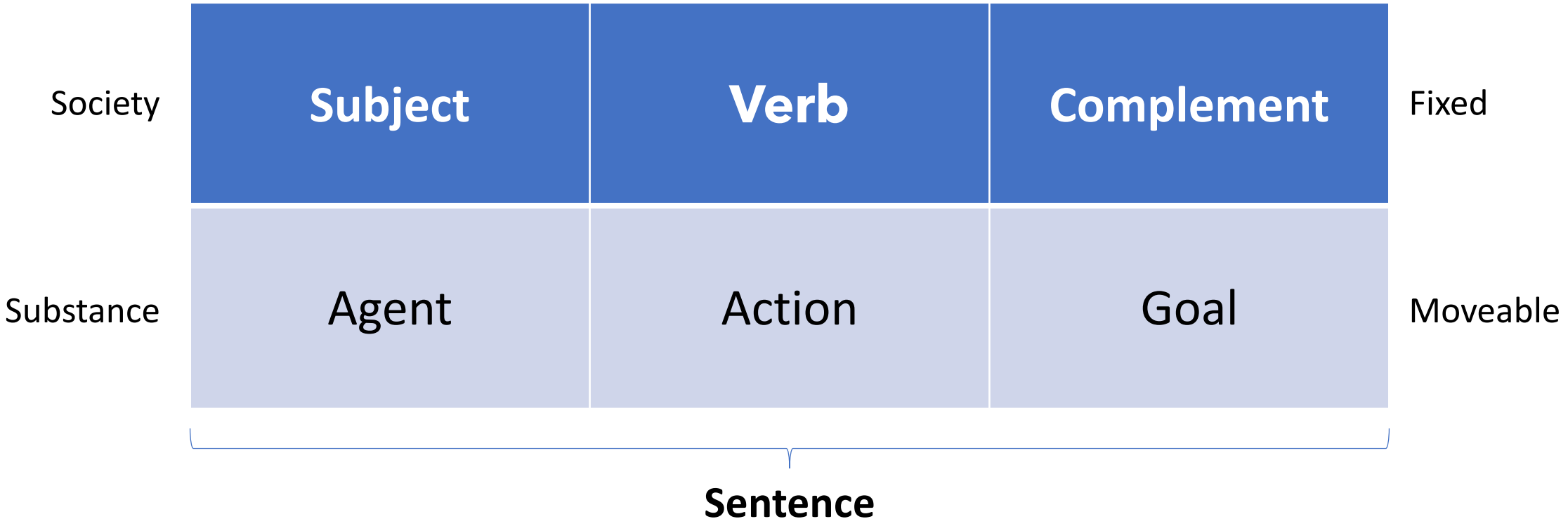
WHY IS EFFECTIVE SCIENTIFIC COMMUNICATION IMPORTANT?

As a scientist, you have a responsibility to communicate your science clearly and effectively and to as broad an audience as possible. We live in an era of science denial. Science and facts are under attack.

As scientists and physicians, we must do a better job of communicating science in a clear, accessible and engaging way.

WRITING FOR THE READER

- Structure location is key to leading the reader's response
  - Less energy required to figure out structure



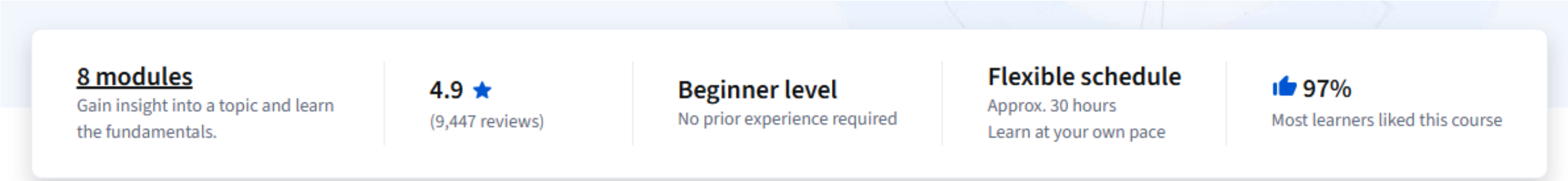
SENTENCE ORDER MATTERS

- Although Fred is a nice guy, he beats his dog.
- Although Fred beats his dog, he is a nice guy.
- Fred is a nice guy, but he beats his dog.
- Fred beats his dog, but he is a nice guy.

READER EXPECTATIONS

1. Look at all the verbs in the paragraph
2. Are subj + verb separated?
3. Whose story is it?
4. Is there appropriate backward linking info?
5. What is in the stress position?
6. Are your sentences finishing in qualifying phrases?

WRITING FOR THE SCIENCES



- Dr. Kristin Sainani from Stanford University
- Free on coursera
- https://www.coursera.org/learn/sciwrite

How to cut clutter

Common clutter:

- 1. Dead weight words and phrases
  - As it is well known
  - As it has been shown
  - It can be regarded that
  - It should be emphasized that
- 2. Empty words and phrases
  - basic tenets of
  - methodologic
  - important
- 3. Long words or phrases that could be short
  - muscular and cardiorespiratory performance
- 4. Unnecessary jargon and acronyms
  - muscular and cardiorespiratory performance
  - Gliomagenesis
  - miR
- 5. Repetitive words or phrases
  - studies/examples
  - illustrate/demonstrate
  - challenges/difficulties
  - successful solutions
- 6. Adverbs
  - very, really, quite, basically, generally, etc.

"Some words and phrases are blobs."
-- William Zinsser in *On Writing Well*, 1976

Long words and phrases that could be short...

Wordy version	Crisp version
A majority of	most
A number of	many
Are of the same opinion	agree
Less frequently occurring	rare
All three of the	the three
Give rise to	cause
Due to the fact that	because
Have an effect on	affect

Eliminate negatives

Not honest	dishonest
Not harmful	safe
Not important	unimportant
Does not have	lacks
Did not remember	forgot
Did not pay attention to	ignored
Did not succeed	failed

Verbs

Write with verbs

- use strong verbs
- avoid turning verbs into nouns
- don't bury the main verb

"to be" verbs

- Is
- Are
- Was
- Were
- Be
- Been
- Am

- could be
- shall be
- should be
- will be
- would be
- may be
- might be
- must be
- has been

Don't turn verbs into nouns

Provide a review of	review
Offer confirmation of	confirm
Make a decision	decide
Shows a peak	peaks
Provide a description of	describe

Don't bury the main verb

Keep the subject and main verb (predicate) close together at the start of the sentence…

- Readers are waiting for the verb!

COMMON GRAMMATICAL ERRORS

1. "Data are" not "Data is"…

The word "data" is plural.

- ex: *These data show an unusual trend.*
  The data support the conclusion.
  The data are critical.
  (v. *datum*, singular form)

2. Affect vs. effect

- Affect is the verb "to influence"
  - *The class affected her.*
  - As a noun, affect denotes feeling or emotion shown by facial expression or body language, as in "The soldiers seen on television had been carefully chosen for blandness of affect" (Norman Mailer).
- Effect is the noun form of this influence
  - *The class had an effect on her.*
  - As a verb, effect means to bring about or to cause, as in "*to effect a change*"

3. Compared to vs. compared with

- Compare to = to point out *similarities* between different things
- Compare with** (used more often in science = to point out *differences* between similar things

ex: *"Shall I compare thee to a summer's day?"*
ex: *Brain tumors are relatively rare compared with more common cancers, such as those of the lung, breast, and prostate.*

4. That vs. which

"That" is the restrictive (defining) pronoun
"Which" is the nonrestrictive (non-defining) pronoun

What's the difference between these two?→
The vial that contained her RNA was lost.
The vial, which contained her RNA, was lost.

5. Singular antecedents…

Do not use "they" or "their" when the subject is singular. To avoid gender choice, turn to a plural!

Each student worries about ~~their~~ grade.
Each student worries about her grade.
Better: All students worry about their grades.

That/which

- Key question: Is your clause essential or non-essential?
  - THAT: The essential clause cannot be eliminated without changing the meaning of the sentence.
  - WHICH: The non-essential clause can be eliminated without altering the basic meaning of the sentence (and must be set off by commas).

What is the purpose of an abstract?

- Allows readers to quickly understand your study, in order to decide whether to read the full paper;
- Prepares readers to follow your study's detailed information, analyses, and arguments;
- Helps readers understand and remember key points from your study.

Drafting an abstract is like telling a story……

Strong abstracts have a simple, high-impact, relevant, and cohesive story to tell.

A cohesive story starts with an explicitly stated, hypothesis-based objective.

That objective naturally leads into the methods in a logical flow of why you chose to conduct your study as you did.

Results should include all the findings that (1) build to your conclusion and (2) are structured in the order of the methods discussed.

The conclusion will directly respond to the objective/hypothesis/purpose identified in the beginning of your abstract.

Drafting an abstract is like telling a story……

Common pitfalls are:

- Listing a conclusion unrelated to your objective
- Listing methods without corresponding results
- Failing to clearly tie methods or results to your explicit purpose

- Wrong format

First step – Check your guidelines

- https://spuur.urology.wisc.edu/2023-summer-program-materials/

- ABSTRACT GUIDELINES FOR JAMBOREE **HERE**. You must follow them exactly. A Word template, formatted for these guidelines, is **HERE**.

Deadline: Thursday, July 24th …11:59 PM CT

Guidelines for Jamboree Abstract

Title

- Be clear and informative
- Reflect the aim and approach of the work
- Specific as possible while still describing the full range of the work

A good title tells a story and clearly states a key finding.

Examples of titles

- Barred Owl population growth in the range of the California Spotted Owl
- Early detection of rapid Barred Owl population growth within the range of the California Spotted Owl advises the Precautionary Principle

Examples of titles

- An Analysis of Healthcare Data Privacy
- Assessing the Effectiveness of Encryption Techniques in Protecting User Data Privacy in a Healthcare Organization

Authorship

- Authorship generally requires substantial contributions to the conception, design, data acquisition, analysis, or interpretation of the work, drafting or revising the manuscript, and final approval of the publication.

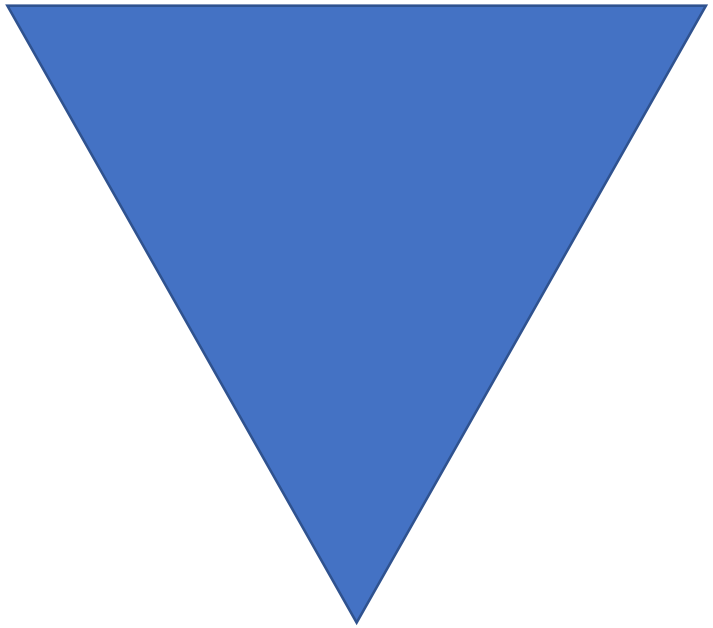
- All authors should review the abstract/manuscript. Authors are responsible for ensuring the work is trustworthy and truthful.

Structured abstract

- Body must contain 4 separate paragraphs:
    - Introduction and Objective
    - Methods
    - Results
        - Graphs and/or tables may be used (count towards character count)
    - Conclusions plus a sentence or 2 at the end about health relevance (implication, speculation or recommendation)

Introduction and Objective

- Limit to the most essential info someone needs to know to understand your study
- 1-3 brief sentences
- What are you studying?
- Why are you studying it? Knowledge gap?
- Last sentence should be a smooth transition to methods (your experiment)



Methods – What did you do?

- A brief description of your experiment
- Who/What/How many?
- What samples did you collect?
- What did you measure?
- What assay did you run to measure it?
- What you need to put here can be specific to your field
  - Ask your PI for guidance!

Results – What did you find?

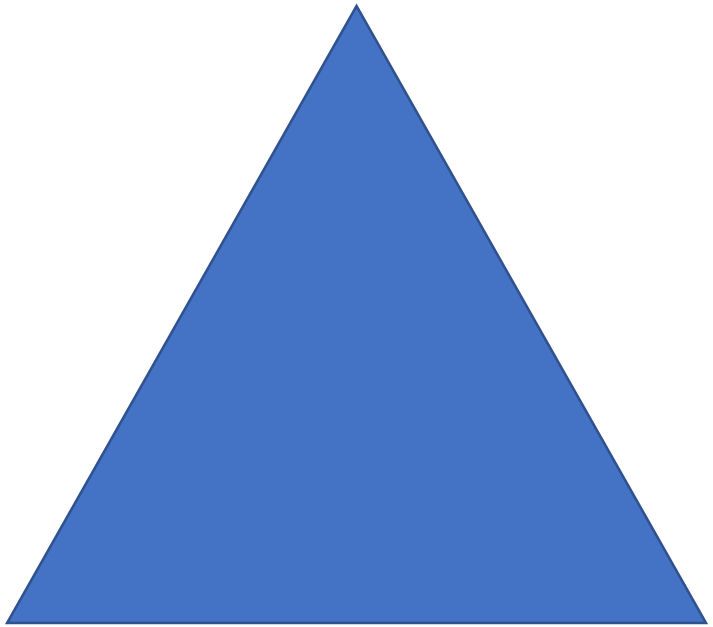
- Numbers, numbers, numbers
- Reporting info on final dataset (exclusions, drop-outs, etc)
- Reporting the results from your analyses (statistics)
  - i.e. means, standard deviations, effect size, relative risk
- Whether there a significant difference between groups
  - P-values in parentheses
- Use your methods as a guide—if reported in the methods, it should have a result and follow the same order

Results – Adding tables/figures

- Some meetings allow tables/figures as part of the abstract submission
- Usually accounts towards your word limit
  - Jamboree- Tables/Figures account for 225 characters each
- Be sure to refer to the figure or table in your results section

Conclusions – The big picture

- Summarize the main finding(s) from your study
- What are the implications of these findings? Take away message?
- Can also include a future direction



Go and write your first draft!

- Write first and edit later

- Have lots of people read it over
  - All abbreviations defined?
  - No spelling or grammatical errors?
  - Everything clearly explained?
  - Conclusions clear and concise?

- Remember your abstract is often the only thing people will read

Activity!

- Review the abstracts you have been provided
- Rank them from what you think is “best” to “worst”
- Provide some feedback for the best and the worst in your groups

Feedback should be……

Informed

- Actually read the abstract or paper!

Specific

- What is it that makes you think this is a good or bad product?
- Demands more of the reviewer
- Proves that you have actually read the paper/abstract
- Allows the author to make meaningful improvements

Appreciative

- Acknowledge what has been done well and what the strengths are in addition to what might be improved