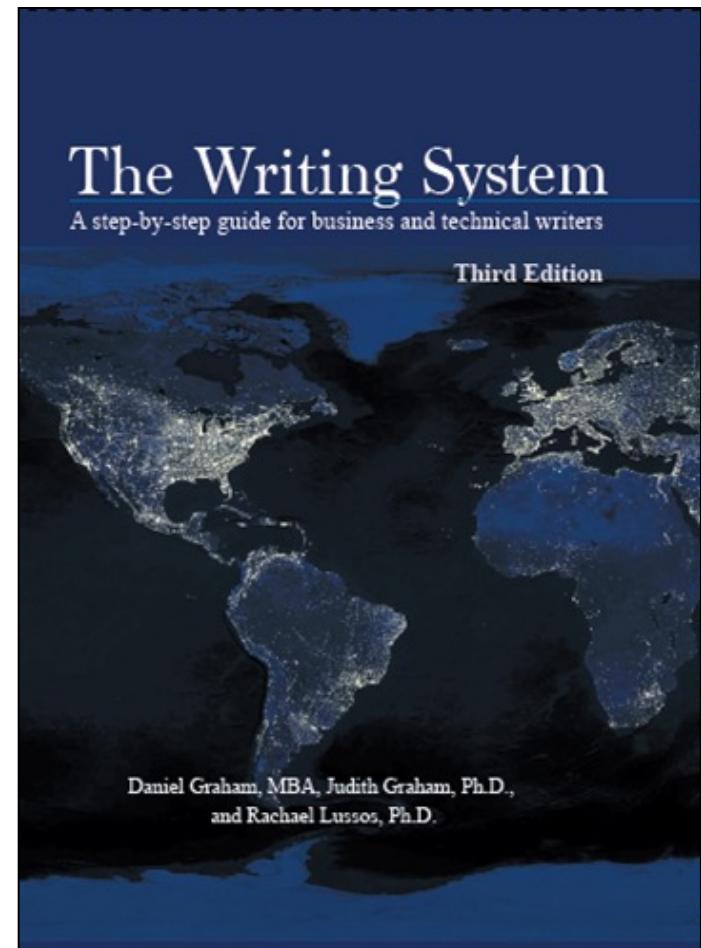


The Writing System

Rachael Graham Lussos, PhD

July 2023



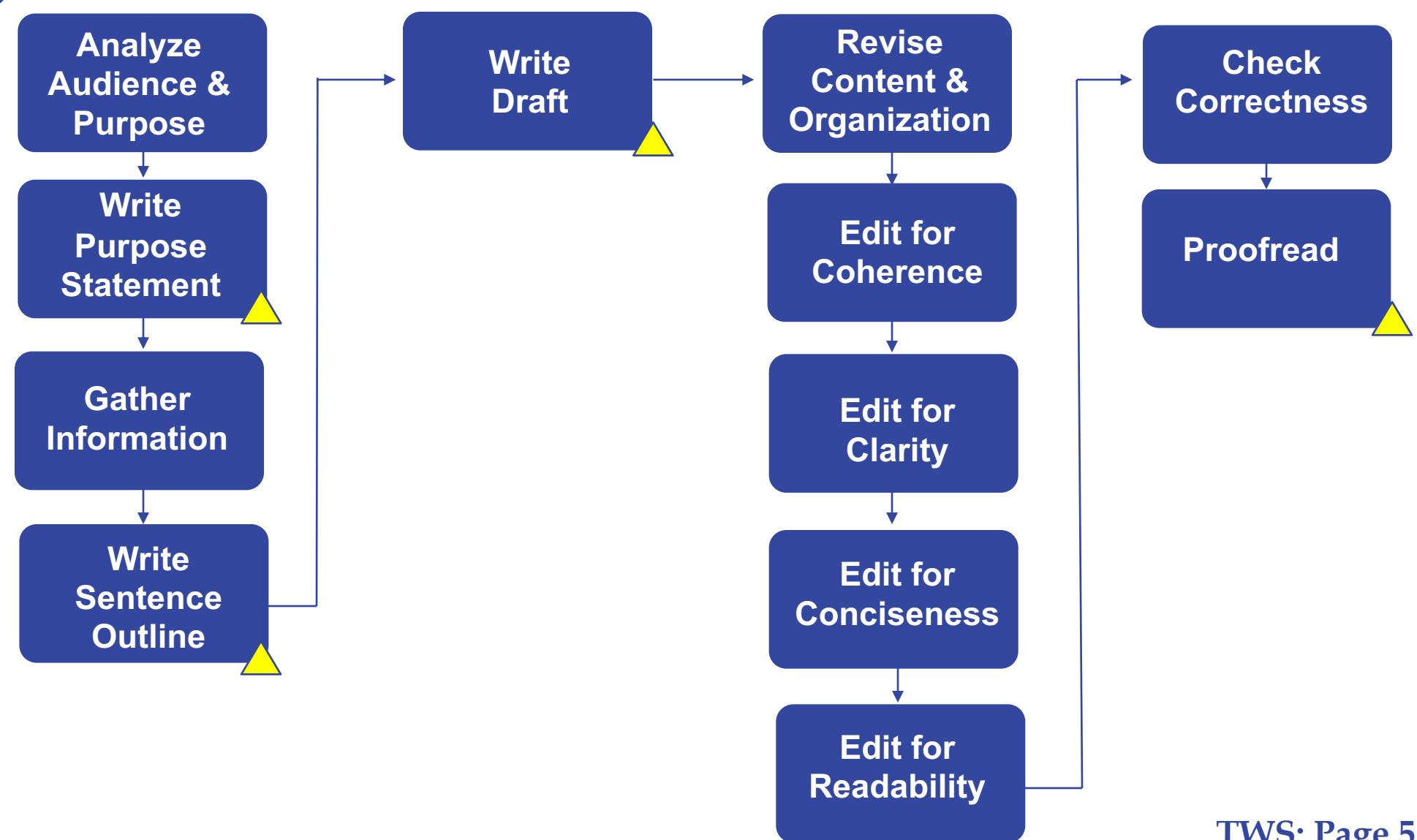
Graham Associates © 2020

Course Purpose

This course provides you a proven system with techniques to help professionals produce quality documents faster and more easily.

The system and techniques work for all nonfiction documents, from email correspondence to peer-reviewed journal articles.

The Writing System



TWS: Page 5

Analyze Purpose and Audience

Decide what result you want.

What is your (or your organization's) purpose for writing the document?

Analyze Purpose and Audience

Identify the audience.

The audience is whoever uses the information in your document.

If you have audiences who use the information differently, then you need to analyze each.

Analyze Purpose & Audience

Audience's purpose for reading

Do not confuse the audience's purpose for reading with:

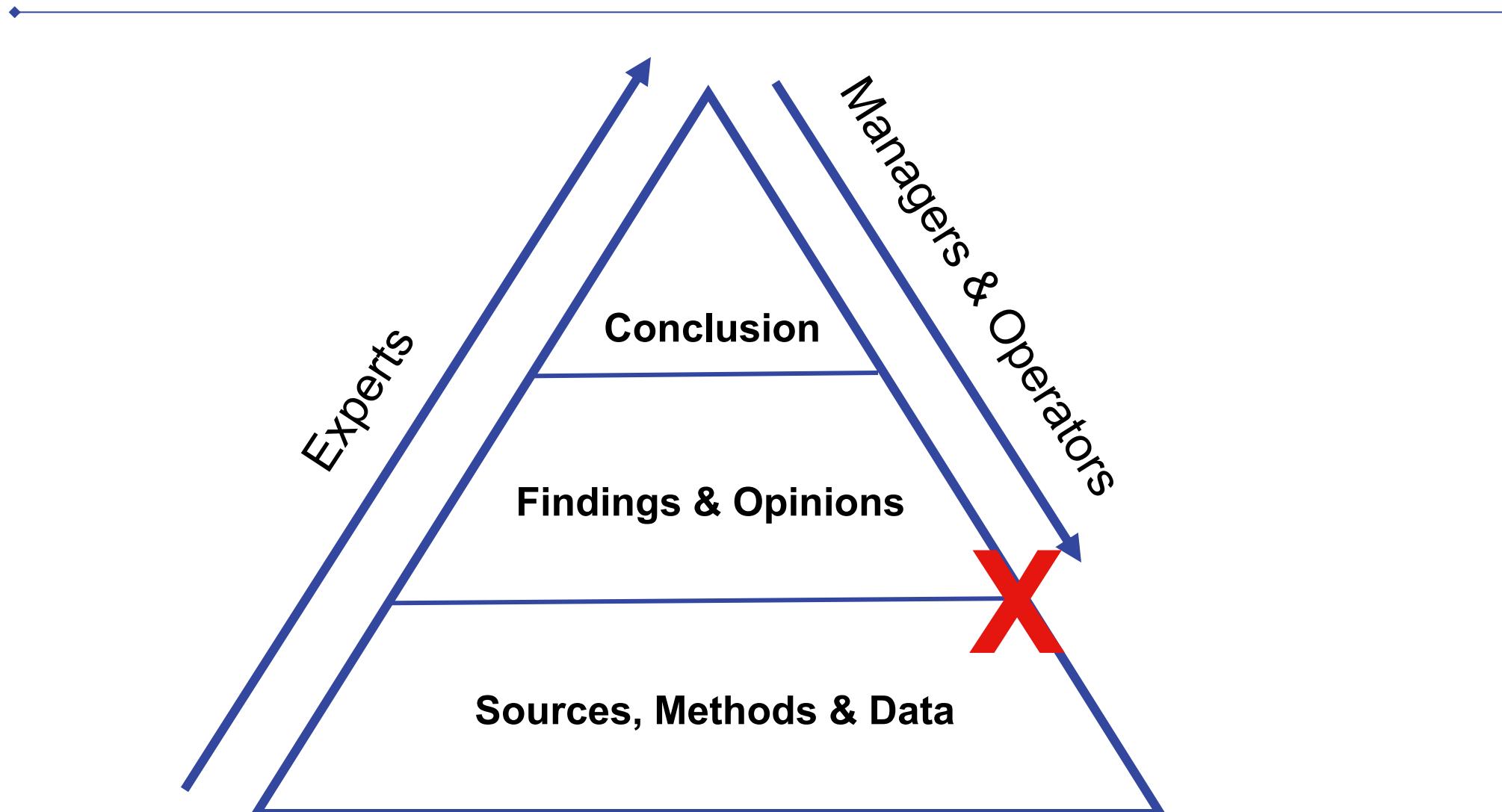
- your purpose for writing
- the topic or underlying work.

How Audience Wants Information Organized

In the body of the document, organize the information according to the audience:

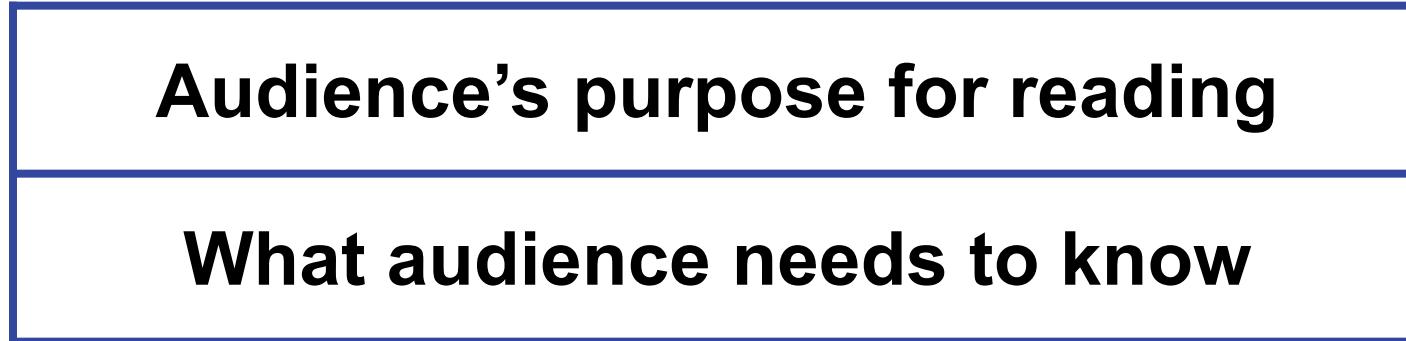
Audience	Purpose	Order of Content
Expert	Master or validate subject matter and then advise	Sources, methods, and data → findings → conclusions or recommendations
Manager	Make a decision or a plan	Recommendation or result → discussion
Operator	Perform a function	Expected result → instructions
General	Satisfy curiosity	Conclusion → discussion

Audience Purpose Determines Organization.



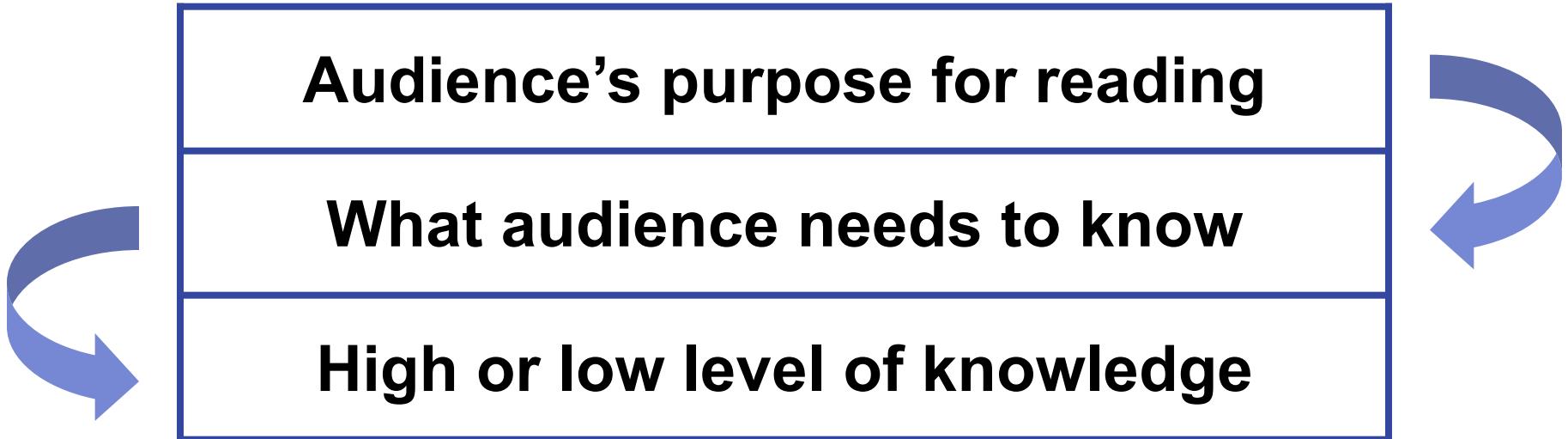
TWS: Page 16

Analyze Purpose & Audience



Limit what the audience needs to know to accomplish the purpose—*not* everything you know about the subject.

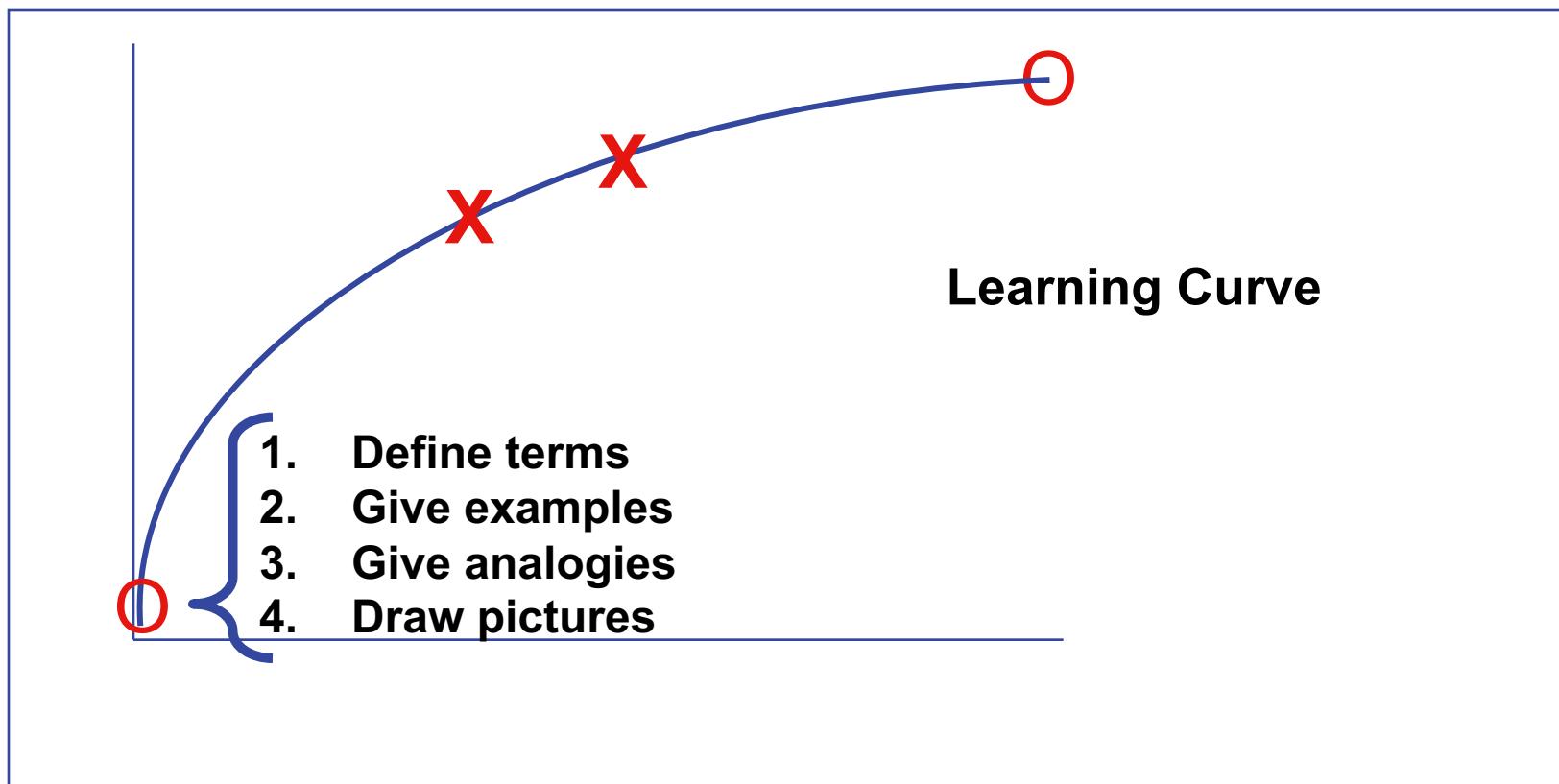
Analyze Purpose & Audience



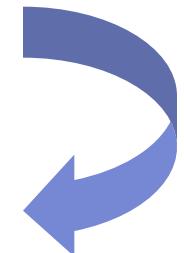
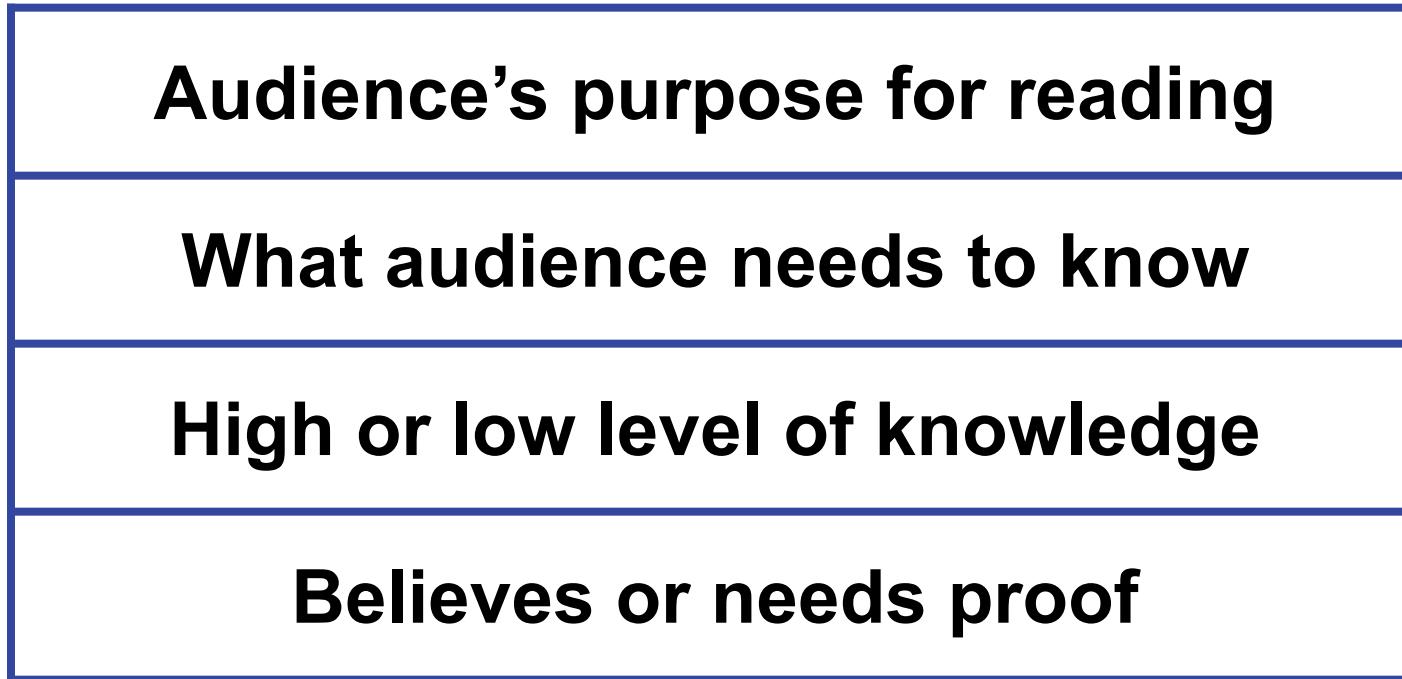
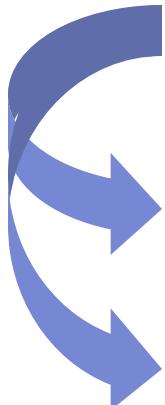
Does the audience need to be educated on the topic before they can use the information?

Help the audience with low knowledge.

You must pick high or low—not middle.



Analyze Purpose & Audience



Multiple Audience

Partition subject matter three ways:

1. Write separate documents.
2. Break core document into sections.
3. Use front and back matter.

Write a Purpose Statement

Part	Function
Document	Names the document
Verb	Sets expectations and tone
Content	Tells what audience needs to know
Audience	Identifies the primary audience
Outcome	Defines audience's purpose for reading

This report (document) describes (verb) findings from a comparison analysis of three system alternatives (content) to inform policy and investment decisions (outcome) by senior leadership (audience).

Gather Information

Use your purpose statement—what the reader needs to know.

- **Decision Letter:** This letter describes *the business risks of changing the merchant services platform* so you can justify keeping the current system.
- **Journal Article:** This article details *a recent study on the motivating factors and barriers to entry of innovation competition participation*. We provide policy recommendations for R&D organizations to ensure more equitable participation.
- **Advertisement:** [This advertisement advertises. . . implied] New home buyers can get *a better interest rate and avoid mortgage insurance* by contacting ACME Lenders at 888-888-LEND.

If your organization has a standard format, use the format as a topic outline.

Sentence Outlining

1. Write points—**covering generalities** and **assertions**—using short words in short sentences.
2. Evaluate points to eliminate irrelevancies and redundancies.
3. Sequence points.

The Importance of Making Your Point

The value the expert brings to management is in the points—not the data.

~paraphrasing Peter Drucker

You have two kinds of points: **covering generalities** and **assertions**.

Point Type	Arguable?	Relation to Details that Follow	Types of Details that Follow
Covering Generality	No	Covers details	Methods and evidence
Assertion	Yes	Supported by details	Findings, opinions, conclusions, and recommendations

Make your points in the body of the report.

Covering Generality points are non-arguable and cover details that follow.

1. The following is a summary of our preliminary results.
2. We conducted a literature search from 2000 to present.

Assertion points are arguable and supported by the details that follow.

1. Future research should account for this limitation.
2. The proposed approach increases efficiency while mitigating risk.

Note that points are relatively short and easy to understand.

Supporting details are relatively long and difficult to understand.

Tips for the Writing Phase

1. Put yourself in a good environment.
2. Write details to support each point in outline.
3. Write swiftly—don't edit!
4. Write simple *who-does-what*, *what-does-what*,
who-is-who, *what-is-what* sentences.
5. Use personal shorthand.
6. Write in order: body, conclusion, introduction.
7. Take short breaks.
8. Select tools to make the job easier.

Overview your document.

Format	Introduction	Executive Summary	Abstract
Must Include	<ul style="list-style-type: none">• Purpose statement• Plan of document	<ul style="list-style-type: none">• Purpose statement• Recommendations• Key findings	<ul style="list-style-type: none">• Topic• Significance• Methods• Results• Conclusions
May Include	<ul style="list-style-type: none">• Background• Audience Details• Sources & Methods• Key Terms• Limits in Scope	<ul style="list-style-type: none">• What happens next	N/A

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Revise Organization and Content

1. Take a break before starting revision.
2. Work with a hard copy of the draft.
3. Put yourself in the reader's place.
4. Use the **organization** and **content tests**.

Organization Test

Organize points and details to help the reader use the information. If you answer “yes” to any of these three questions, reorganize your message:

1. ***Does the message read like a data dump?*** “Here is everything I know about the topic.”
2. ***Does the message read like a list of events?*** “And then this happened. And then this happened. And then...”
3. ***Is the message filled with I, me, and mine instead of you and yours?***

Caution: Fixing an organization problem requires revising about 80% of your original draft. You cannot simply edit your way out.

Revise with outlining technique.

1. Pull points from paragraphs.
 - a. Analyze purpose and audience.
 - b. Write a purpose statement.
 - c. Add points you think are missing.
2. Evaluate points to eliminate irrelevancies and redundancies.
3. Group points as major and minor.
4. Sequence points.

Content Test

Content includes points and supporting details.

Your content must answer five questions:

1. ***What is the topic?*** You owe the reader a clear purpose statement.
2. ***So what?*** Or, What's the point? Why does the reader care?
3. ***Specified how?*** Back your points with relevant, adequate, and accurate details.
4. ***Is it true?*** Check your facts.
5. ***Says who?*** Cite authorities, especially on ethics and law.

Edit for coherence.

- Repeat key terms.
- Use vertical lists and tables to present series.
- Use graphics to teach.

Repeat key terms.

Shifting terms causes the logical fallacy of equivocation.

- *Program* becomes *policy, plan, effort, activity...*
- *Process* becomes *approach, method, protocol...*
- *Goal* becomes *objective, purpose, aim...*
- *Forecast* becomes *project, estimate, predict...*
- *Evaluate* becomes *assess, analyze, consider, measure...*
- *Recommend* becomes *suggest, support, propose...*

The only good reason to use different terms is to convey different meanings.

Use vertical lists for series.

1. Introduce the list by defining the series.
2. Make the list items grammatically parallel.

What is wrong with this list?

For your application:

1. Plan to submit early.
2. Saving a backup file is always wise.
3. Include your last name and date in the filename.
4. Submit the file on the vendor portal. The portal can be found here: [insert link]
5. Email us within two days if you do not receive a confirmation of receipt before then.

Use vertical lists for series.

1. Introduce the list by defining the series.
2. Make the list items grammatically parallel.

What is wrong with this list?

We recommend five tips to ensure a smooth application process:

1. Plan to submit early.
2. Saving a backup file is always wise.
3. Include your last name and date in the filename.
4. Submit the file on the vendor portal. The portal can be found here: [insert link]
5. Email us within two days if you do not receive a confirmation of receipt before then.

Use graphics to teach.

1. Introduce the graphic by telling the readers what they learn.
2. Show and label the graphic.
3. Comment about the graphic.

Launches below 66 degrees correlate with significant O-ring damage (see Figure 1).

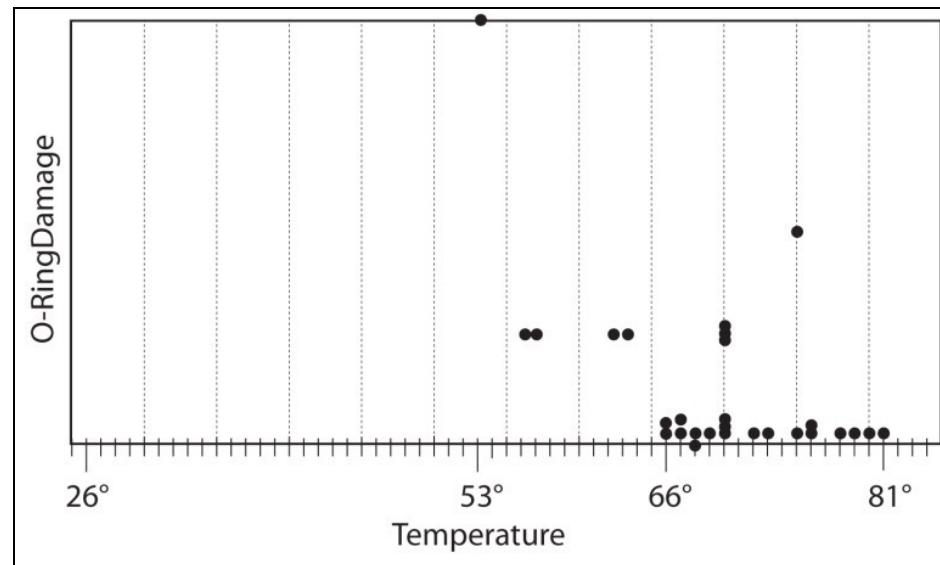


Figure 1. O-ring damage correlates with temperature.

Use graphics to teach.

1. Introduce the graphic by telling the readers what they learn.
2. Show and label the graphic.
3. Comment about the graphic.

We recommend against launching tomorrow when the temperature is 26 degrees. Figure 1 shows how launches below 66 degrees correlate with significant O-ring damage. A launch at 53 degrees had O-ring damage that was almost catastrophic.

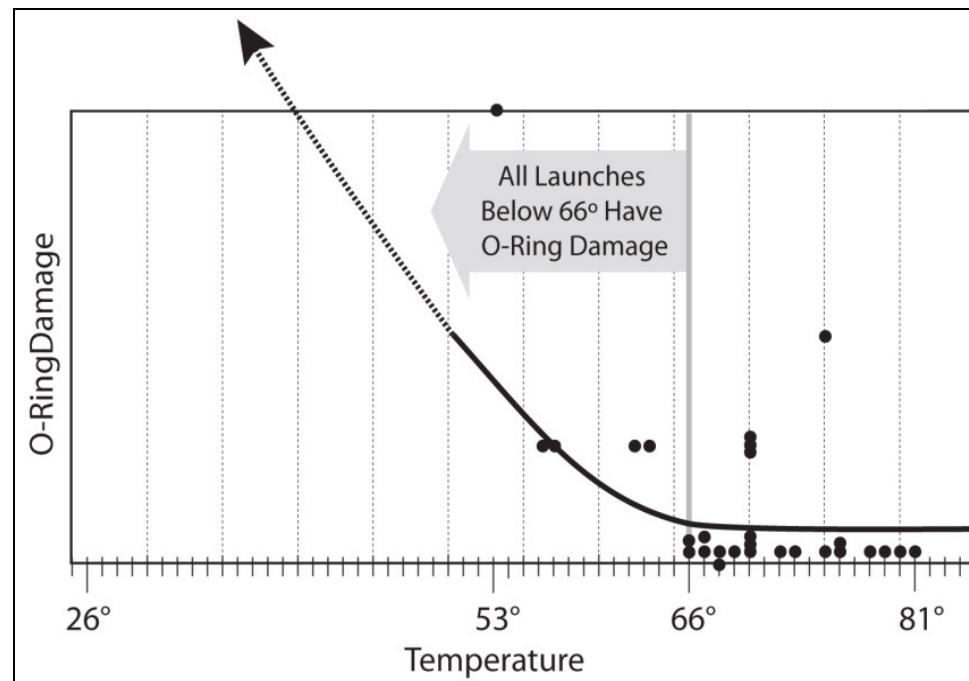


Figure 1. All launches below 66 degrees have had significant O-ring damage.

TWS: Page 96

Edit for clarity.

Clarity is the chief stylistic concern!

**Paradox: You are the only person who can edit for clarity;
you might be the worst person to edit for clarity.**

Solution: Look for patterns, not meaning.

Check for signs of ambiguity at two levels:

1. word choice
2. sentence structure.

Look for patterns in ambiguity.

- Use concrete and specific words.
- Avoid passive voice, future tense, and *would*, *should*, *could* verbs.
- Eliminate ambiguous pronouns.
- Use Standard English.

Be concrete and specific.

Use words that engage the five senses:

- **Vague:** Contact your representative.
- **Specific:** Call Jan Smith, at (888) 123-4567.

Use measurements of time and exact or estimated numbers:

- **Vague:** recently, ASAP, COB
- **Specific:** in the 4th Quarter, by 5:30 p.m. EST on Friday
- **Vague:** several, numerous, various, a number of
- **Specific:** at least three

Replace adverbs and adjectives with details:

- **Vague:** {X} is a very dangerous drug
- **Specific:** {X} can cause acute kidney failure

Use active voice.

Recognize the pattern of passive voice.

The system **was installed** to improve data quality.
“To be” verb Following verb Don’t know who or what acts

The water **was tested** for possible contamination.

The water **is considered** safe to drink.

I audited the trial that **was conducted** in December.

The new center **was opened** in January.

Use active voice.

Use four techniques to change passive voice to active voice:

1. Tell the reader “who does what” or “what does what.”
 - **Passive:** The water was tested for possible contamination.
 - **Active:** EPA tested the water for possible contamination.
2. Cut the passive text when nobody cares who does the action.
 - **Passive:** The water is considered safe to drink.
 - **Active:** The water is safe to drink.

Use active voice.

3. Eliminate *that*, *who*, or *which* plus the “*to be*” verb.
 - **Passive:** I audited the trial that was conducted in December.
Active: I audited the trial conducted in December.
4. Let the work speak for itself: “what does what.”
 - **Passive:** The new center was opened in January.
 - **Active:** The new center opened in January.

The pattern is not *always* passive voice.

Use judgment to determine whether the *to-be-plus-verb* pattern indicates passive voice or a predicate adjective.

This position is involved in hiring and promotion.

All interviewees were interested in metrics for diversity and inclusion.

NASA is committed to advancing human discovery.

I am determined to finish the book.

Simplify verb tense: Prefer present and past.

1. Mark *will* used in front of another verb.

- This procedure *will* describe steps that inspectors *will* follow to ensure the manufacturing process *will* meet ISO standards.

2. Mark *have*, *has*, and *had* used in front of another verb.

- We *have* received your application.
- The reviewer *has* identified two errors.

3. Mark “to be” verbs followed by an “–ing” verb.

- The Agency *is expecting* a 5% budget reduction for FY 2013.
- I *am looking* forward to meeting you.

Avoid *would*, *should*, *could* verbs.

You have two ways to solve *would*, *should*, *could* ambiguity:

1. Eliminate the *would*, *should*, *could* as unnecessary.
2. Replace with a word that describes a specific condition: **may**, **might**, **can**, **need to**, **recommend**, **suggest**, **advise**, **must**, or **shall**.

Avoid *would*, *should*, *could* verbs.

- Assuming the current budget of \$80M, total obligations **could** decrease 3.3%. The Agency **would** be in compliance with OMB guidance at that level.
- Senior leadership **should** consider the risks and benefits of a commercial option.
- Given the short notice, we **should** accept email approval for the badge renewal.

Eliminate ambiguous pronouns.

1. Mark every *it* and test for the antecedent noun.
 - The computer connects to an UltraHD monitor with a switch on the side panel. We need to fix *it* before *it* crashes.
2. Mark every *this*, *that*, *these*, and *those* used as noun; insert a common or proper noun.
 - The budget increase enables the establishment of a new office dedicated to advancing innovation in biomedicine. *This* allows us to meet a congressional mandate.
3. Mark every *there* or *it* followed by a “*to be*” verb; fix the easy ones.
 - *It is* important that *there are* clear recommendations in the report.

Use standard English.

Avoid Latin abbreviations: i.e., e.g., etc., vs.

Avoid the slash: /. The slash means “divided by.”

- **Poor:** parent/teacher conference
- **Revision:** parent and teacher conference
- **Poor:** travel by subway/bus
- **Revision:** travel by subway or bus
- **Poor:** review the performer/vendor
- **Revision:** review the performer (also known as the vendor)
- **Poor:** film and/or TV
- **Revision:** film, TV, or both

Edit for conciseness.

Cut deadwood to achieve three positive outcomes:

1. Make the document's message more distinct.
2. Help readers read the text faster.
3. Reduce the likelihood of grammar and punctuation errors.

Cut empty verbs.

Cut empty verbs; find and use buried verbs instead.

We accomplished the system improvement and provided a recommendation for additional testing.

NIH conducted research in consumer use of generic drugs.

A decision may be reached through consideration of the facts.

Cut empty verbs.

Cut empty verbs; find and use buried verbs instead.

We **accomplished** the system **improvement** and **provided** a **recommendation** for additional testing.

We improved the system and recommended additional testing.

NIH **conducted research** in consumer **use** of generic drugs.

NIH researched how consumers use generic drugs.

A **decision may be reached** through **consideration** of the facts.

10 words, Readability 7.1

Consider the facts before you decide.

6 words, Readability 6.4

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Cut unnecessary prepositions.

Cut cliché prepositions. Replace prepositional phrases with adjectives.

In the interest of improving relations with stockholders, the report for the third quarter needs to highlight efforts made by the company for the maintenance of profitability by the control of costs.

Cut unnecessary prepositions.

Cut cliché prepositions. Replace prepositional phrases with adjectives.

In the interest **of** improving relations **with** stockholders, the report **for** the third quarter needs to highlight efforts made **by** the company **for** the maintenance **of** profitability **by** the control **of** costs.

32 words, Readability 16.8

To improve stockholder relations, the third quarter report highlights the company's cost control.

13 words, Readability 11.2

Cut who, which, and that.

Cut who, which, and that, especially when preceded by a *to-be* verb.

Mr. Smith is the inspector **who is** assigned to your facility.

Mr. Smith is the inspector assigned to your facility.

I include a Financial Interest sheet **which is** for your information only.

I include a Financial Interest sheet for your information only.

Many GMO foods increase crop yields **that are** responsible for lowering food prices. *Readability 7.6*

Many GMO foods increase crop yields and thereby lower food prices.

Readability 5.8

Cut repetition.

Cut a repetitive subject or object if the sentence is short.

The contractor proposed to update the user interface of the tool. The contractor also proposed to design a new logo for the tool.

Readability 7.3

Cut repetition.

Cut a repetitive subject or object if the sentence is short.

The **contractor proposed to** update the user interface of **the tool**. The **contractor** also **proposed to** design a new logo for **the tool**.

Readability 7.3

The contractor proposed to update the user interface of and design a new logo for the tool.

Readability 9

Cut repetition.

Make a vertical list.

The plan considers three scenarios. The first is a 25% budget increase. The second is a 25% budget reduction. The third is no budget change.

Cut repetition.

Make a vertical list.

The plan considers three scenarios. **The first is** a 25% budget increase.
The second is a 25% budget reduction. **The third is** no budget change.

The plan considers three scenarios:

- a 25% budget increase
- a 25% budget reduction
- no budget change

Cut redundancy.

Cut words that restate information. Cut doubling.

To accomplish and fulfill a mandatory requirement in the contract, you must deliver the latest version of the final draft. You must submit the manuscript per this previously established agreement.

USDA acknowledges and supports the work of advocacy groups that represent farmers' interests.

Cut redundancy.

Cut words that restate information. Cut doubling.

To **accomplish and fulfill** a **mandatory requirement** in the **contract**, you **must deliver** the **latest version** of the **final draft**. You **must submit** the **manuscript** per this **previously established agreement**.

To fulfill a contract requirement, deliver the final draft.

USDA **acknowledges and supports** the work of **advocacy groups that represent** farmers' interests.

Readability 13.0

USDA supports the work of farmer advocacy groups.

Readability 8.1

Cut implied phrases.

Cut phrases understood from context.

The **purpose (intent, goal, object, subject) of the** study . . .

When you find time . . . When possible . . .

As you may be aware (know, understand, realize) . . .

It has come to our attention . . .

I am writing you this letter . . .

Red **in color**, a year **in duration**, 5 ml **of volume**, month **of May** . . .

If you **find you are in need of**

Feel free to email me . . . Do not hesitate to email me . . .

Cut unnecessary or vague modifiers.

Cut modifiers that do not add precision, especially clichés. Many unnecessary modifiers are implied or prepositional phrases.

At long last, the market survey was completed in its entirety. The Market Committee reached a full consensus of opinion. They decided to stick to the basic essentials of franchising new retail stores. In concert with the Products Committee, they decided to exactly replicate store layout and merchandise.

Cut unnecessary or vague modifiers.

Cut modifiers that do not add precision, especially clichés. Many unnecessary modifiers are implied or prepositional phrases.

At long last, the market survey was completed **in its entirety**. The Market Committee reached **a full consensus of opinion**. They decided to **stick to the basic essentials of** franchising new **retail** stores. **In concert** with the Products Committee, they decided to **exactly** replicate store layout and merchandise.

The market survey was completed. The Market Committee decided to franchise new stores. With the Products Committee, they decided to replicate store layout and merchandise.

Cut 23 words from 48 words

TWS: Page 152

Measure readability.

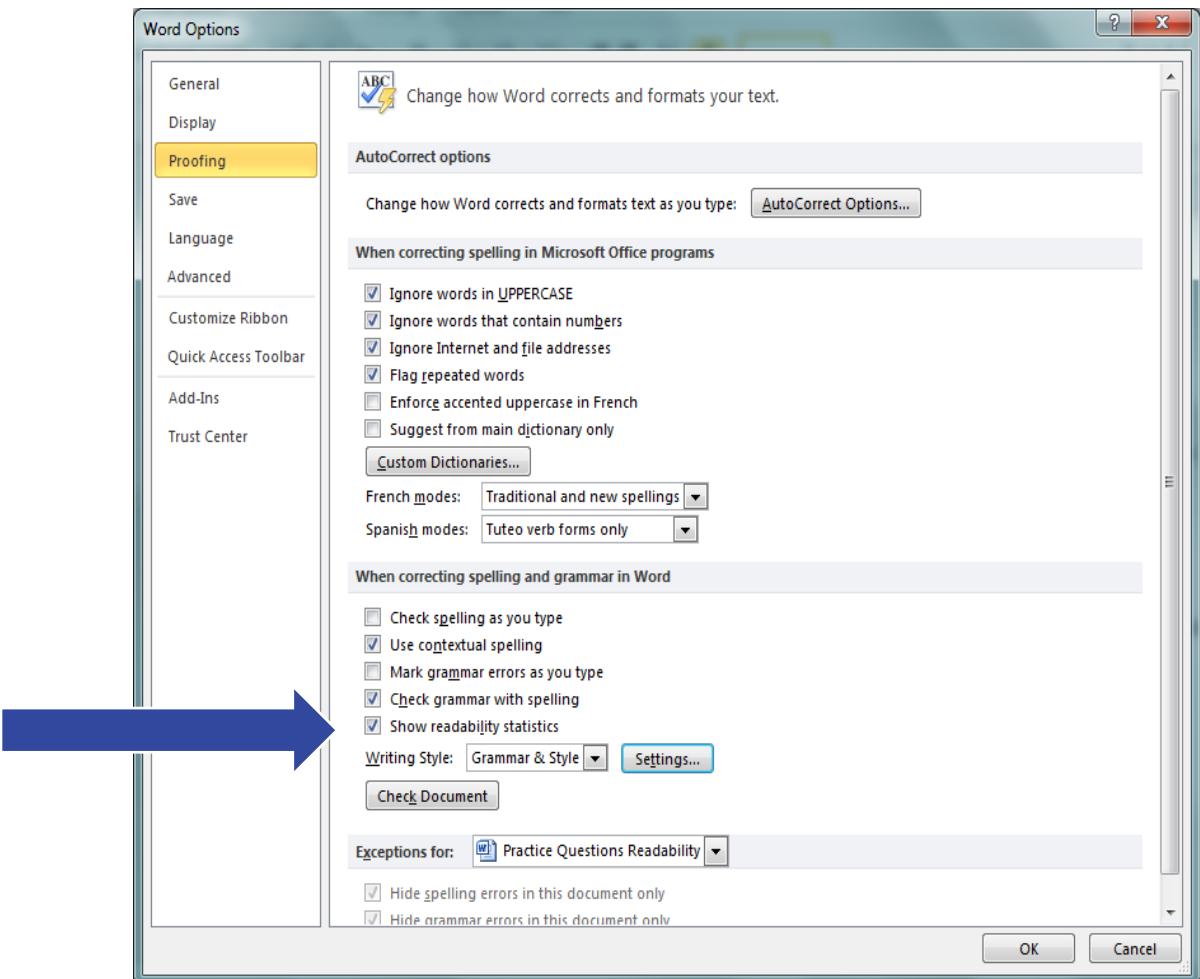
The Gunning Fog Index

1. Use a sample of 100 words or more.
2. Average sentence length (ASL) = #words / #sentences
3. Long words (LW) = #long words per 100 words
4. $(ASL + LW) \times 0.4 = \text{Gunning Fog Index (Grade Level)}$

Note: Long words have three or more syllables. However, do not count capitalized words, abbreviations, Arabic numbers, or words whose third syllables are *es* or *ed* endings.

Check for readability.

The Flesch-Kincaid is available in word processing software.



Check for readability.

The screenshot shows a Microsoft Word document with a dark theme. A 'Readability Statistics' dialog box is open in the foreground, displaying various metrics. A large blue arrow points from the bottom right of the dialog box towards the 'Document stats' button in the bottom right corner of the Word ribbon. The ribbon tabs include Insert, Draw, Design, Layout, Review, View, Developer, Acrobat, Tell me, Comments, Reviewing, and Share. The document content discusses the purpose of a study related to NASA's future activities in space.

Readability Statistics

Counts	
Words	37,853
Characters	225,005
Paragraphs	2,155
Sentences	1,728
Averages	
Sentences per Paragraph	1.8
Words per Sentence	18.6
Characters per Word	5.5
Readability	
Flesch Reading Ease	28.1
Flesch-Kincaid Grade Level	13.8
Passive Sentences	16.2%

OK

Purpose of the Study

This study helps elucidate NASA's future activities in the post-International Space Station National Lab era. NASA is preparing for the retirement of the shuttle and the transition to one or more Commercial LEO Destinations (CLDs) as models for connecting NASA and other commercial opportunities.

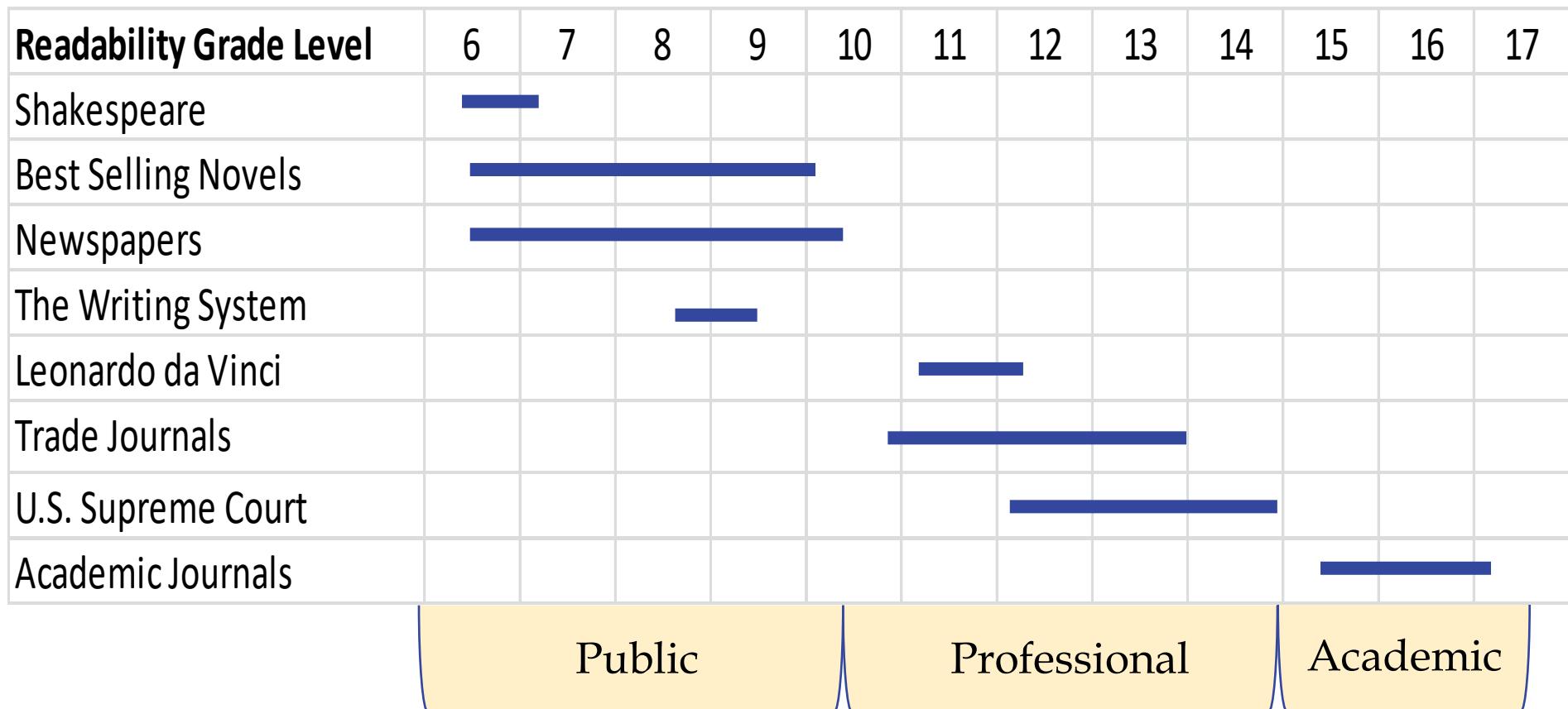
NASA's current model for facilitating non-governmental space activities is the International Space Station National Laboratory (ISSNL). After congressional authority in 2005 and hardware delivery by 2008, NASA has been working for the Agency's first private mission to foster scientific discovery and international leadership in commercial space, and insure that taxpayers realize the highest return on their investment in LEO.

As the LEO ecosystem evolves through the 2020s, it will be part of NASA's strategic goal to support the needs of many stakeholders on Earth can participate in LEO so that taxpayers realize the highest return on their investment in LEO.

The purpose of this study is to answer the following two questions:

1. **Potential Models:** *What are potential models for an ISS National Lab facilitating government-funded or subsidized activities on a commercial LEO platform after the transition of the ISS to one or more private platforms?*
2. **Near-Term Impact:** *In light of these options, what modifications would be helpful to make in the current ISSNL-CASIS partnership and the NASA management process as NASA plans for the transition of the ISS by 2030?*

Write to your audience: typical readability.



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Improve readability.

- Replace long words with short words.
- Cut sentence length.

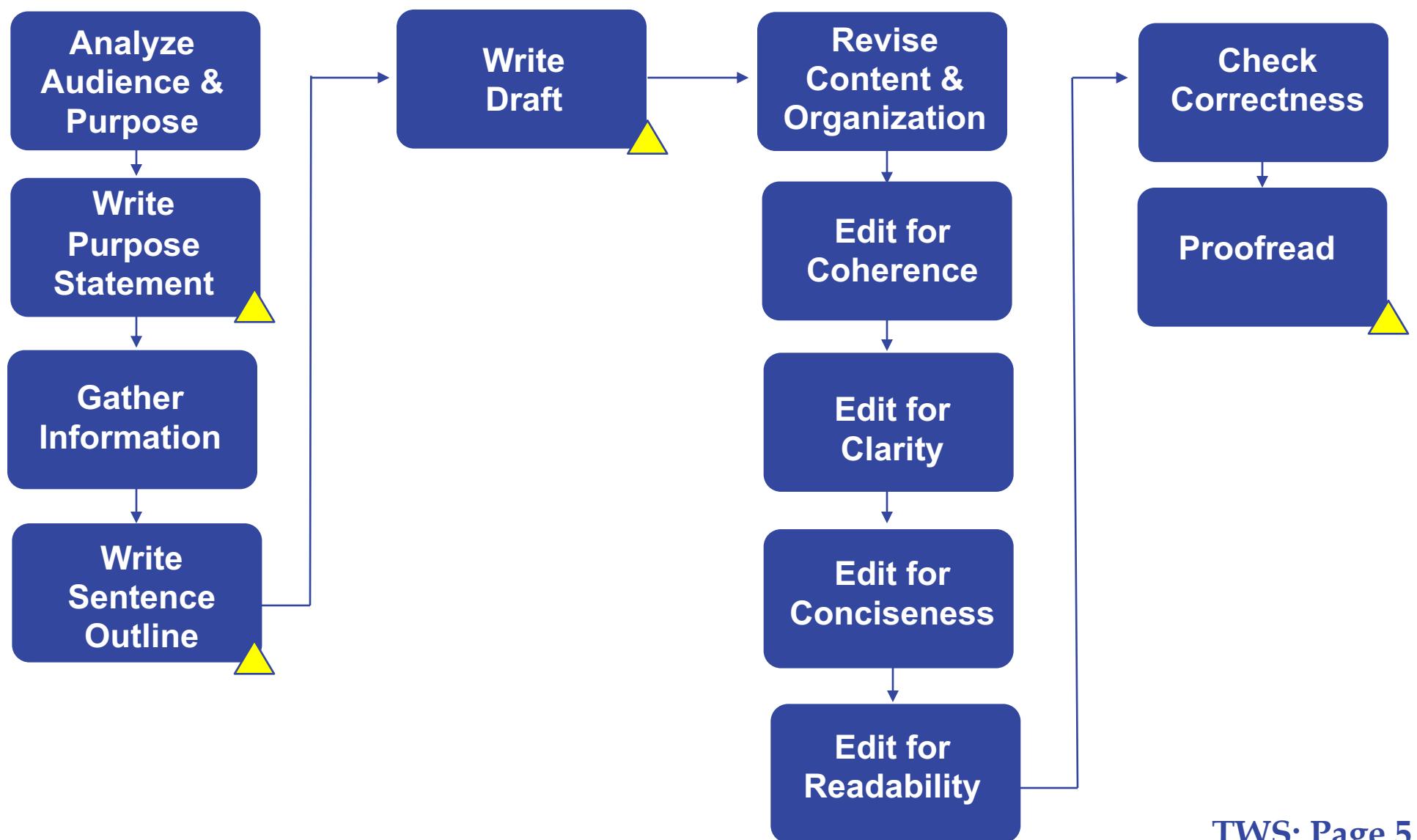
Check for correctness.

In this order, check these four aspects of language and editorial standards:

1. word choice
2. grammar
3. punctuation
4. mechanics.

Note: Know what style guide to follow.

The Writing System



TWS: Page 5

Email if you have any questions.

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