

# **Grammar for Educated Writers of English**

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# Grammar for Educated Writers of English

## Today's topics

- Why do we care about grammar?
- Common problems
- Easy ways to improve text
- Exercises
- Resources I like

# Why Do We Care About Grammar?

Written communication is key to successful job performance

- Thesis, dissertation, journal articles
- Proposals for funding
- Letters of recommendation, employee reviews
- Reports
  - NSF now will not let investigators submit proposals if they have not submitted final reports
- Patent applications

# Why Do We Care About Grammar?

- “Publish or perish” -- Work that is not published is the same as work that was never done
- Clarity is persuasive
- Good writing conveys authority and credibility -- some reviewers think if grammar is bad, the research cannot be well-done

# Purpose of Technical Writing

The goal of technical writing is to communicate.

What is being communicated in a journal article:

- Background to the research – why it needed to be done
- What was done
- How it was done
- Results obtained
- Interpretation of the results
- Conclusions
- Next steps

# Good Technical Writing

- Clear
- Concise
- Coherent
- Easy to read and understand

Good technical writing is hard work, with many drafts – more than two dozen for beginners!

# Good Technical Writing

What did the previous slide NOT say about good technical writing?

That it is a matter of following a set of rules.

*“A foolish consistency is the hobgoblin of little minds”*  
-- Emerson

Good technical writing is all about communicating.

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# Common Problems

- Modifiers: articles, misplaced, dangling
- Nouns – countable or not
- Pronouns without antecedents
- Verb tenses
- Voice – active or passive
- Punctuation
- Lack of parallel construction

# Common Problems

- **Modifiers: articles, misplaced, dangling**
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# Modifiers

A modifier is a word or phrase that gives more detail about (“modifies”) another word or phrase.

Adjectives modify nouns and pronouns.

Articles are a special case of adjectives.

Adverbs modify verbs, adjectives, and other adverbs.

# Articles: *a*, *an*, *the*

- *A* and *an* are indefinite articles. They signal that the noun to follow is any member of a (countable) group.
  - Use *a* when the next word begins with **the sound of** a consonant
    - A satellite, a union of two sets
  - Use *an* when the next word begins with **the sound of** a vowel
    - An honest mistake, an algorithm

# Articles: *a, an, the*

- *The* is a definite article, signaling that the noun to follow is a specific member of a group.
- I analyzed ten chapters in the GIS Manual; 8.5% of words are articles.

Explanation: <http://owl.english.purdue.edu/handouts/esl/eslart.html>

Exercises:

<http://depts.gallaudet.edu/englishworks/grammar/main/articles.htm>

# Exercise

A or An? XML-based encoding schema  
“An” because X is pronounced eks, with an  
initial vowel sound.

# Misplaced Modifiers

A modifier should be near the word it modifies. When it is so far away that a reader associates it with some other closer word, it is called a misplaced modifier.

Modifiers can be misplaced for comic effect:

*The other day I shot an elephant in my pajamas. How he got in my pajamas I'll never know.*

-- Groucho Marx

# Misplaced Modifiers

These words often cause confusion when misplaced in a sentence:

- almost
- just
- nearly
- simply
- even
- hardly
- merely
- only

# Misplaced Modifiers

Compare:

- **Almost** all of the survey respondents use high-resolution satellite data.
- All of the survey respondents **almost** use high-resolution satellite data.

# Misplaced Modifiers

Compare:

- **Hardly** any of the survey respondents use high-resolution satellite data.
- The survey respondents use **hardly** any high-resolution satellite data.

# Dangling Modifiers

A modifier is a word or phrase that gives more detail about (“modifies”) another word or phrase. When the word being modified is missing or too far away, the modifier is dangling.

Dangling modifiers often occur at the beginnings of sentences (though they can be at the end)

# Dangling Modifiers

- By adding our software, existing investments can be leveraged.
- By adding our software, clients can leverage existing investments.
- Clients who add our software can leverage existing investments.
- Clients can leverage existing investments by adding our software.

# Dangling Modifiers

To be a university professor, a PhD is usually required.

To be a university professor, one is usually required to have a PhD.

# Common Problems

- Modifiers: articles, misplaced, dangling
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- Lack of parallel construction

# Nouns – Countable or Not

How do you know when to use *less* and when to use *fewer*?

- Less modifies uncountable nouns.  
less sand
- Fewer modifies countable nouns.  
fewer trees  
fewer grains of sand

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# Pronouns Without Antecedents

A pronoun takes the place of a noun. Clear writing explicitly expresses the noun first (it's called the antecedent).

## Examples

I	we	me	us
you	you	you	you
he, she	they	him, her	them

# Pronouns Without Antecedents

- It is important to note that A and B are distinct topics.

## Improvements:

- Please notice that...
- We/I ask you to note that...
- Your attention is directed to the important fact that...
- The fact that A and B are distinct topics is important to note.

# Pronouns Without Antecedents

- It can be seen that salinity increased ...

## Improvements:

- The data show that salinity increased ...
- Salinity increased ...

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# Verb Tenses

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Verb tenses convey time: past, present and future.

The main guideline:

Try to avoid switching tenses very often.

# Verb Tenses

Introduction is the only section that usually needs past, present and future tense (and therefore the most care to avoid switching too often).

- Past tense for previous work
  - Smith et al. (1973) studied spectral signatures of several tree species.
- Present tense for findings of previous work
  - Coniferous and deciduous trees have distinct spectral responses in the near-infrared region (Smith et al. 1973)
- Future tense for what will be discussed

# Verb Tenses

Experimental facts are usually past tense

Examples:

- Forest cover was greater on the first date than on the second.
- Overall classification accuracy was greater for procedure A than for procedure B.

# Verb Tenses

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The concluding section may use past tense to refer to earlier sections of the document, and future tense to talk about follow-on work.

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# Voice – Active or Passive

- Voice is either active or passive
  - The data were classified using nearest neighbor  
... *Passive*
  - We classified the data using nearest neighbor.... *Active*
- In active voice, the subject takes the action.
- In passive voice, the action is done to the subject.

# Voice – Active or Passive

A familiar example of intentional use of passive voice:

Mistakes were made.

This construction allows the speaker to avoid saying who made the mistakes.

# Voice – Active or Passive

Historically, passive voice was preferred for scientific writing. However, active voice is generally more direct and easy to understand. (Trade publications prefer active voice for this reason.) Study the journal to which you will submit an article, and take your lead from the articles they have published in the last three years.

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# Punctuation: Road Signs to Easy Reading

The comma

Never put a comma between a subject and its verb, nor between a verb and its object.

- The fire, burned for 18 hours.
- The fire burned for 18 hours.
- We calculated, the average ...
- We calculated the average ...

# Punctuation: Road Signs to Easy Reading

The comma has two primary purposes:

1. To set off non-essential expressions that interrupt the main idea
2. To separate elements within a sentence so as to clarify their relationship

**DO** put commas between elements in a list, between independent clauses, and around parenthetical material.

- We analyzed elevation, slope, and aspect.
- The algorithm includes A, but it does not include B.
- The lake pixels, for example, ...

# Punctuation: Road Signs to Easy Reading

## Hyphens

A compound adjective consists of two or more words that function as a unit and express a single thought; a hyphen connects the words so the reader sees the unit.

- an object-oriented classifier
- first-rate research
- well-thought-out research plan

# Punctuation: Road Signs to Easy Reading

## Apostrophes

1. An apostrophe is used to signify letters have been omitted in a contraction
  - don't = do not
2. An apostrophe indicates possession
  - Sue's research

# Punctuation: Road Signs to Easy Reading

The common problem: Its versus it's  
– it's is **always** a contraction for “it is”

Not so common: whose versus who's  
– who's is a contraction for “who is”

# Punctuation: Road Signs to Easy Reading

Semicolons are used in two situations

1. After a colon, to separate list items that contain commas
  - The following material will be on the exam: Jensen, chapter 4; Campbell, chapter 3; and Lillesand, Kiefer and Chipman, chapter 2.

# Punctuation: Road Signs to Easy Reading

Semicolons are used in two situations

2. To separate two independent clauses.
  - Water is classified correctly at any spatial resolution; the classification accuracy of urban land cover categories can go down as spatial resolution improves.
    - These are related ideas. Each could be a sentence

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# Lack of Parallel Construction

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## Parallel Construction

The use of similar structure for lists of items having similar importance.

# Lack of Parallel Construction

Example:

The procedure involved selecting training samples, calculating descriptive statistics, classification, and tabulating the results.

# Lack of Parallel Construction

Example:

The procedure involved selecting training samples, calculating descriptive statistics, classification, and tabulating the results.

The procedure involved selecting training samples, calculating descriptive statistics, classifying the data, and tabulating the results.

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# Easy Ways to Improve Text

Get rid of “there is” in all its forms (“there are ...,” “there will be ...” etc.)

- There are three algorithms being compared.
- Three algorithms are being compared.
- There is a linear relationship between ...
- A and B are linearly related.
- There can be only three outcomes.
- Only three outcomes are possible.

# Easy Ways to Improve Text

Eliminate repetition.

I chose this method for three reasons. The reasons were, first, that ...

I chose this method for three reasons: first, ...

The study site has four characteristics important to this study. The first important study site characteristic is ...

Four characteristics of the site are important to this study: (1) ...

# Easy Ways to Improve Text

Use verbs directly, don't make them into nouns.

- ... is indicative of ...
- ... indicates ...
- ... draw the conclusion that ...
- ... conclude ...
- ... perform a calculation ...
- ... calculate ...

# Easy Ways to Improve Text

Be direct. Eliminate filler.

- Measurements concerning temperature...
- Temperature measurements...
- An especially important factor is radiometric resolution because...
- Radiometric resolution is important because...

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# Exercise

- ... resulting in both better planning and less expensive mid-construction changes

# Exercise

- ... resulting in both better planning and less expensive mid-construction changes
- ... resulting in both better planning, and fewer and less-expensive mid-construction changes

# Exercise

- There are growing opportunities for entrepreneurs to ...

# Exercise

- There are growing opportunities for entrepreneurs to ...
- Opportunities are growing for entrepreneurs to ...

# Exercise

- Market needs drive innovations.

# Exercise

- Market needs drive innovations.
- The needs of the market drive innovations.

# Exercise

- Market needs drive innovations.
- The needs of the market drive innovations.
- Innovations are driven by the needs of the market.

# Exercise

- an OGC Web Services based portal

# Exercise

- an OGC Web Services based portal
- an OGC-Web-Services-based portal

# Exercise

- It is difficult to reconcile the sometimes conflicting needs for long range planning, judicious use of resources, and speed, ...

# Exercise

- It is difficult to reconcile the sometimes conflicting needs for long range planning, judicious use of resources, and speed, ...
- The sometimes-conflicting needs for long-range planning, judicious use of resources, and speed are difficult to reconcile ...

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# Resources I Like

Purdue Online Writing Lab: clear explanations, examples

<http://owl.english.purdue.edu/>

Ken Hanson's "Help with Technical and Scientific Writing": focus on technical writing, many good references, both books and online materials

<http://public.lanl.gov/kmh/techwriting.html>

## Resources I Like (continued)

Jack Lynch's "Guide to Grammar and Style":  
encyclopedia format, conversational tone,  
target audience is college students  
<http://andromeda.rutgers.edu/~jlynch/Writing/>

# Wikipedia

- While wikipedia is useful, its very nature means that anyone can change content at any time. Thus a page that has correct information today may have an error on it tomorrow.
- ASPRS does not accept citations of wikipedia entries.