**EVS 7900 – Scientific Writing and Grantsmanship**

**Lecture #3: 08 September 2021**

**Nouns and Pronouns**

Simple definition of a noun: A person, place, thing, or idea

Two types of nouns

Proper noun – a specific person, place, thing, idea. Capitalized and singular.

Examples: George Washington, Cookeville, Empire State Building, Marxism

Common noun – not often capitalized. Can be singular or plural.

Examples: doctors, desert, bottles, bravery

Capitalization of nouns

Putnam County

Putnam, Overton, Jackson, and White counties

Roaring River

The river

Roaring, Falling Water, Cumberland, and Sequatchie rivers

Types of common nouns

Concrete noun

Abstract noun

Collective noun

Mass noun

Singular? Plural?

Operational Rule: Decide whether the meaning is singular or plural.

Practice:

A total of 48 petri dishes (was / were) in the autoclave. Okay for either option

A number of test tubes (is / are) on the table.

The number of test tubes on the table (is / are) four.

This beer has (fewer / less) taste.

This beer has (fewer / less) calories.

The data was / were analyzed.

The dataset was / were analyzed.

Functions of nouns

Subject – Noun that does something in a sentence.

Object – a noun that has something done to it in a sentence. It is the object of a

verb or preposition.

Example:

John hit the ball. (active voice)

John hit the ball over the fence. (active voice)

The ball was hit over the fence. (passive voice)

Note: some nouns do not do anything in a sentence…

Example: Penicillin is an antibiotic.

Pronouns

Simple definition: Words used to replace nouns.

Note: the “antecedent” is the noun that is replaced by a pronoun

John hit the ball.

He also ran around the bases. (John is the antecedent for “he”)

The latter treatment yielded the highest concentration of…

It became the ….

Six types of pronouns

Personal – replaces a “person” noun. The form of the pronoun changes depending on whether the pronoun is used as the subject, object, or if it’s possessive.

I, me, my, mine (first person singular)

You, you, your, yours (second person)

He, him, his (third person singular)

She, her, hers (third person singular)

It, it, its (third person singular)

We, us, our, ours (first person plural)

They, them, their, theirs (third person plural)

She hit the ball.

The technician placed the sample in the autoclave. (third person active voice)

The sample was placed in the autoclave by the technician. (passive voice)

What merits co-authorship?

A threshold must be crossed; certain criteria must be met.

Common criteria for earning co-authorship:

* Designing or co-designing the experiments.
* Analyzing and interpreting data.
* Writing or co-writing the manuscript.

Practice using the correct form of personal pronouns:

She and I drove to school.

He and I shared the ice cream.

* + They gave a free ice cream cone to she and I.
  + They gave a free ice cream cone to she and me.
  + They gave a free ice cream cone to her and me.
  + She and I received free ice cream!

Demonstrative

Relative

Interrogative

Indefinite

Reflexive – myself

Practice

(It’s / Its) exterior needs a new paint job.   
“It is” 🡪 It’s

(It’s / Its) not good science.

A dog knows (it’s / its) master.

John and (myself / I) will go home.

He helped John and (I / me / myself).

Generally avoid contractions in scientific writing.

The two compounds don’t mix well (do not)

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**Lecture #4 Notes: 08 October 2020**

**Action Words (verbs)**

Types of verbs

Transitive – the verb takes an object (noun follows the verb)

Ex: He gave me the hammer.

Intransitive – the verb does not take an object

Ex: She ran.

Practice: She grows roses.

The hamsters grow well.

Existence (or characteristic) verbs – a type of intransitive verb

Compound verbs – verbs that have the same subject

Nominalizations – converting verbs into nouns that often end in “-tion”

Investigate => Investigation

Produce => Production

Practice:

An investigation was undertaken to determine the possible effect of A on B.

I studied the effect of A on B.

The rejection of that theory has been reported.

We rejected that theory.

The installation of the new computer can be performed in 3 days.

We can install the computer in 3 days.

The information was communicated to him.

I informed him.

I told him.

Tips for clear scientific writing:

* + Avoid nominalizations
  + Use first-person pronouns
  + Avoid the passive voice

**Descriptive words (adjectives, adverbs, articles)**

Adjectives – words that modify nouns – can either precede or follow the noun

Ex: The red apple was on the table.

The apple is red.

Adjectives can be used with varying intensity

Positive form cold

Comparative form colder

Superlative form coldest

Some words in English should not be modified with adjectives

Ex: unique, exact, pregnant, infinite, etc. (don’t say “most unique”)

Adverbs – words that modify verbs, adjectives, or other adverbs – often end in “-ly”

Ex: He went slowly.

It was very small.

He went very slowly.

Practice:

This soup is really good.

This soup is real good.

I feel bad.

I feel badly.

Tips for clear writing:

* + Place modifiers as close as possible to the words they modify
  + Be careful with word placement (syntax) especially with certain words

Goal for constructing every sentence:

* + The agent of the action must be clear
  + The action or state of being must be clear
  + Any modifiers used to describe nouns, verbs, or their objects must be carefully placed

Practice:

The large red doctor’s house is nearby.

The doctor’s large red house is nearby.

Articles (a, an, the)

Indefinite articles – “a” or “an”

“a” is used with words that begin with a consonant sound (“a truck”)

“an” is used with words that begin with a vowel sound (“an issue”)

Definite article – “the”

Practice: (fill in the blank with “a” or “an”)

\_\_a\_ Master of Science degree

\_an\_\_ M.S. degree

\_an\_\_ honor

\_\_a\_ hickory tree

A river versus the river

**Function words (conjunctions, prepositions, interjections)**

Conjunctions – join words, phrases, clauses

Note: Clauses have both a subject and a verb. Phrases do not have both a subject and a verb.

Independent clause – makes a complete statement and could stand alone as a complete sentence if needed.

Dependent clause – has both a subject and a verb, but is introduced by a subordinating word and could not stand alone as a sentence.

Example sentence: Joe went to a party after he left the office.

Coordinating conjunctions – express equal weights of the joined words, phrases,

or clauses

Ex: He ran but she walked.

FANBOYS – acronym for the seven coordinating conjunctions

Subordinating conjunctions – do not express equal weights of the joined pieces and often indicate a time relationship or some other limiting function

Common ones include: before, after, although, because, if, where, than, since, as, unless, that, though, when, whereas, while

Side note: Since….versus….because

While….versus….whereas

Avoid “since” and “while” in scientific writing unless used to indicate a time meaning

Coordinating adverbs – preceded by a semicolon and followed by a comma – used to

connect two independent clauses – or used between two sentences

Common ones include: however, moreover, therefore, further, consequently, nevertheless, besides, accordingly, also, too.

Ex: Howard decided to go fishing; however, Roger decided to go home.

Howard decided to go fishing. However, Roger decided to go home.

Prepositions – words combined with nouns or pronouns to make a phrase

More than 70 prepositions used in English

Ex: in the middle

to the left

Interjections? Usually avoided in scientific writing

Four main problems to watch for in scientific writing (regarding use of prepositions):

1. Syntax
2. Doubling
3. Case or form
4. Incorrect linkage

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**Lecture #5 Notes: 22 September 2021**

**Active voice vs. passive voice -- practice:**

The rejection of the manuscript was performed by the editor.

(Passive voice with nominalization)

The manuscript was rejected by the editor.

(Still in passive voice)

The editor rejected the manuscript.

(Active voice and the editor is the subject!)

Our results were in agreement with theirs. (passive voice)

Our results agreed with theirs. (active voice)

The preparation of chemical solutions will be performed by the technician.

(passive voice with nominalization)

The chemical solutions will be prepared by the technician.

(passive voice)

The technician will prepare the chemical solutions.

(active voice and the technician is the subject!)

**Phrases**

Phrase => a group of two or more grammatically related words that do not make a full statement; i.e., a group of related words that does not include both a subject and a verb.

Recall: Clauses are different

There are four types of phrases that act as a part of a sentence or that modify some other element in a sentence:

* + Prepositional
  + Infinitive
  + Participial
  + Gerund

**Prepositional Phrases** – consist of a preposition, its object, and any words that modify the object.

Example:

Use of commas:

Practice: A large mass of literature has accumulated on bacterial cell walls.

A large mass of literature on bacterial cell walls has accumulated.

**Infinitive Phrases** – consist of “to” plus a verb and any objects or modifiers.

Example:

Practice: The treatment failed to delay further signs of infection.

The treatment failed to further delay signs of infection.

**Participial Phrases** – consist of a participle (an “-ing” verb used as an adjective), its object, and its modifiers.

Example:

Practice:

Lying on top of the intestine, you can perhaps make out a thin transparent thread.

You can perhaps make out a thin transparent thread lying on top of the intestine.

Practice: Going home, it is wise to be careful

Note that participial phrases can be used in the present tense (as shown above) or in the past tense:

Example: The man, infected with the virus, weakened quickly.

**Gerund phrases** – a gerund is an “-ing” verb used as a noun.

Examples:

Running is my favorite sport.

Writing this chapter was a difficult task.

I enjoyed writing this chapter.

**Clauses**

Clause => A clause functions as part of a sentence yet, unlike a phrase, has both a subject and a verb.

Two main types of clauses:

* + Independent
  + Dependent

**Independent clause** – a set of words (including a subject and a verb) that makes a complete statement.

Examples: No amount of experimentation can prove me right; a simple experiment may at any time prove me wrong. (Albert Einstein)

Life has not just passed me by; it gave me a kick in the pants while passing.

I tried to find my way out of the forest; however, I became hopelessly lost.

I went to the store, and I bought a loaf of bread.

**Dependent clause** – has both a subject and a verb like the independent clause, but is introduced by a subordinating word that makes the clause dependent on (subordinate to) another (independent) clause. Many of the subordinating words express time or doubt.

(Dependent clauses highlighted in yellow below)

Examples: If it weren’t for my eye doctor, I wouldn’t see straight.

When scientists attempt to predict earthquakes, they are on shaky ground.

She, whom I have known for many years, arrived yesterday.

A cynic is a man who, when he smells flowers, looks around for a coffin.

(H.L. Mencken)

Use of commas:

**Essential and Non-essential Elements** (from GrammarBook.com)

Jane Straus, et al. *The Blue Book of Grammar and Punctuation*, 11th edition.

Rule: Essential elements in a sentence should not be enclosed in commas. Nonessentialelements in a sentence should be enclosed in commas.

Examples: The guy seated next to me wouldn’t stop talking.

Jacob Heinert, the guy seated next to me, wouldn’t stop talking.

Practice:   
People demanding special treatment make me angry.

His brother, who is a health nut, runs five miles a day.

A friend of mine who lives in Boston loves the seafood there.

Alan Lomax, always fascinated by roots music, first recorded the bluesman Lead Belly.

**That or Which**

Dependent clauses can be divided into two types:

Restrictive (defining) – Use “that”

Nonrestrictive (nondefining) – Use “which”

Examples: Beef is a meat (that, which) is high in protein.

This is an experiment (that, which) will succeed.

Practice: Rewrite the two sentences to reduce wordiness.

Beef is high in protein.

This experiment will succeed.

Examples: Antibiotics (that, which) are produced by microorganisms are effective in

treating most infectious diseases.

Antibiotics that are produced by microorganisms are effective in treating most infectious diseases.

Or

Antibiotics, which are produced by microorganisms, are effective in treating most infectious diseases.

Alkaloids (that, which) contain nitrogen can be poisonous.

Alkaloids, which contain nitrogen, can be poisonous.

Note: If the material between commas could be deleted without altering the primary meaning of the sentence, then the clause is nonrestrictive and the commas (and “which”) should be used.

1. Alkaloids, which contain nitrogen, can be poisonous.
2. Alkaloids that contain nitrogen can be poisonous.