

STYLE IN CIHR OOGP GRANT APPLICATIONS

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ADVICE FOR WRITERS

Writing for the *National Post*, Duncan Stewart argues that “without the routine of writing at least a few pages a week, I don’t think one will improve much as a writer” (Mar. 9, 2006: FP 10). He offers this advice to writers:

- “1) read more,
- 2) write more, and
- 3) find your voice” (FP 9).

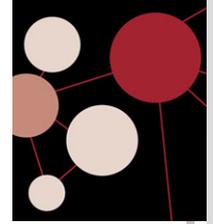
WHERE DO READERS LOOK FOR MAIN IDEAS?

- Readers interpret words in context
- Readers of English look to the left side for familiar information, look to the right side for new information
- Readers expect the context (familiar) on the left side and the new information on the right side
- If they find **what** they are expecting **where** they expect it, readers will find your prose **clear**

Clarity is in the eyes of the beholder

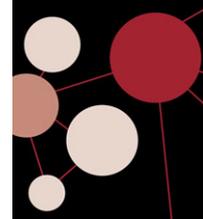


WHEN SHOULD YOU WORRY ABOUT CLARITY?

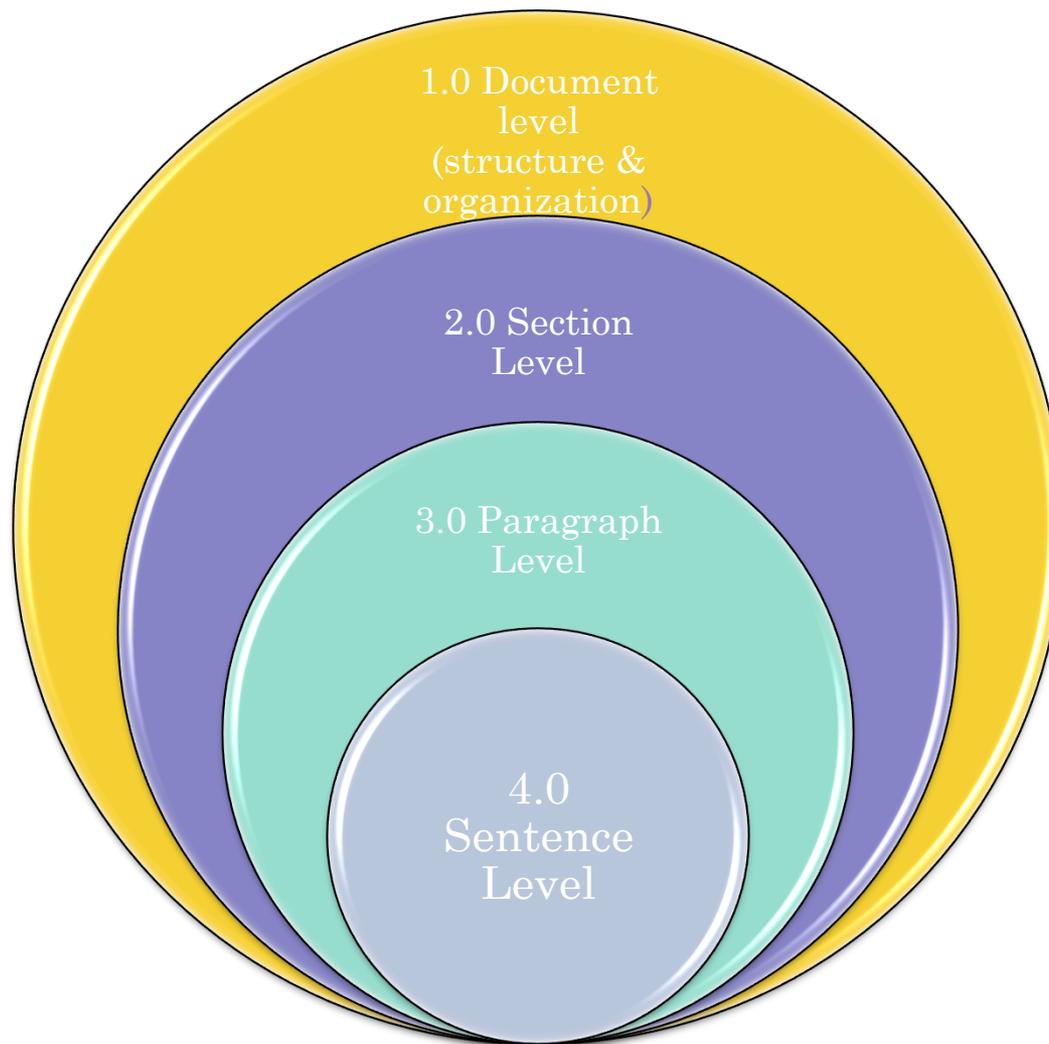


- When your draft reflects basically what you want to say
- Use these techniques on a completed draft to highlight your message (make it clear)
- Do not use these techniques when writing a first draft





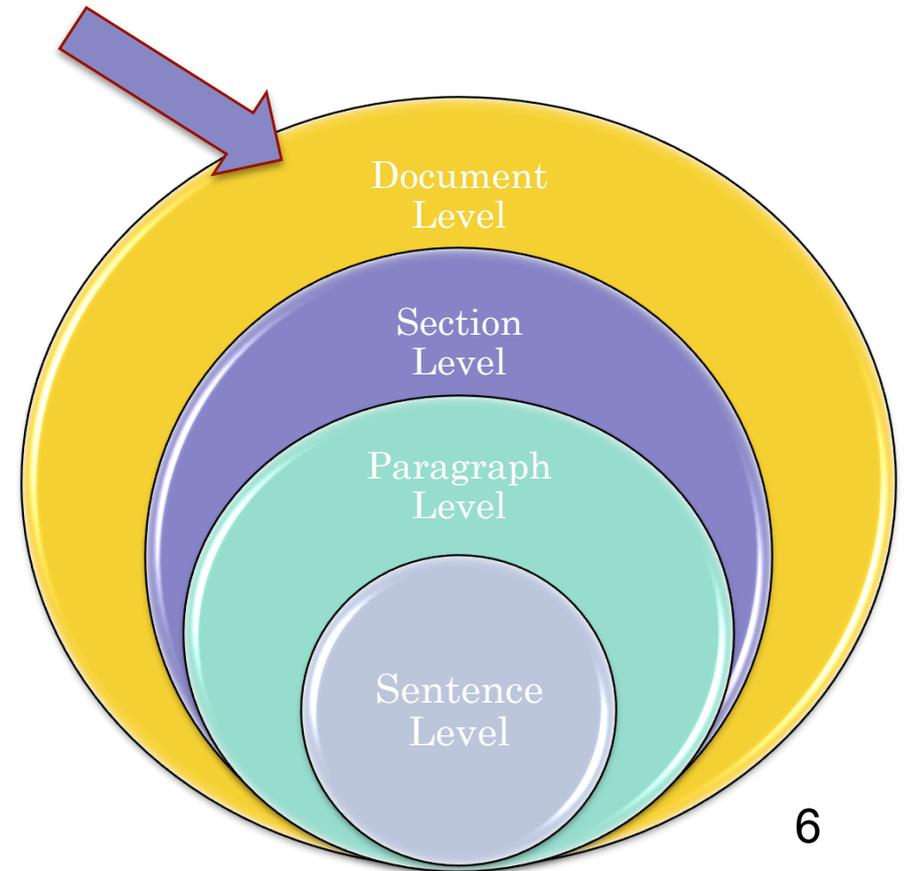
LEVELS OF CLARITY



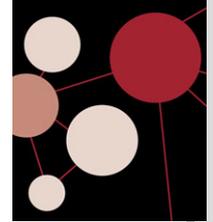
1.0 LEVELS OF CLARITY

1.0 Document Level ✓

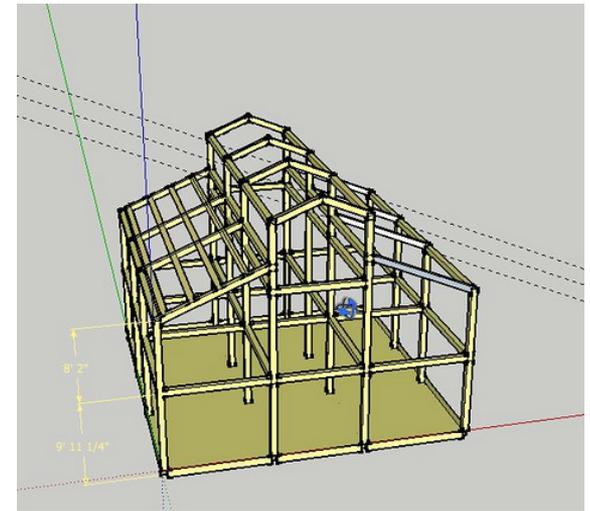
- Section Level
- Paragraph Level
- Sentence Level



1.0 DOCUMENT LEVEL (STRUCTURE & ORGANIZATION)



- Overall structure of the article
- Headings are generic
- Headings signal to readers
 - Organization of the discussion
 - Changes of topic
 - Skeleton of the argument
- Subheadings can be specific and descriptive
 - Signal changes of topic in your discussion/argument



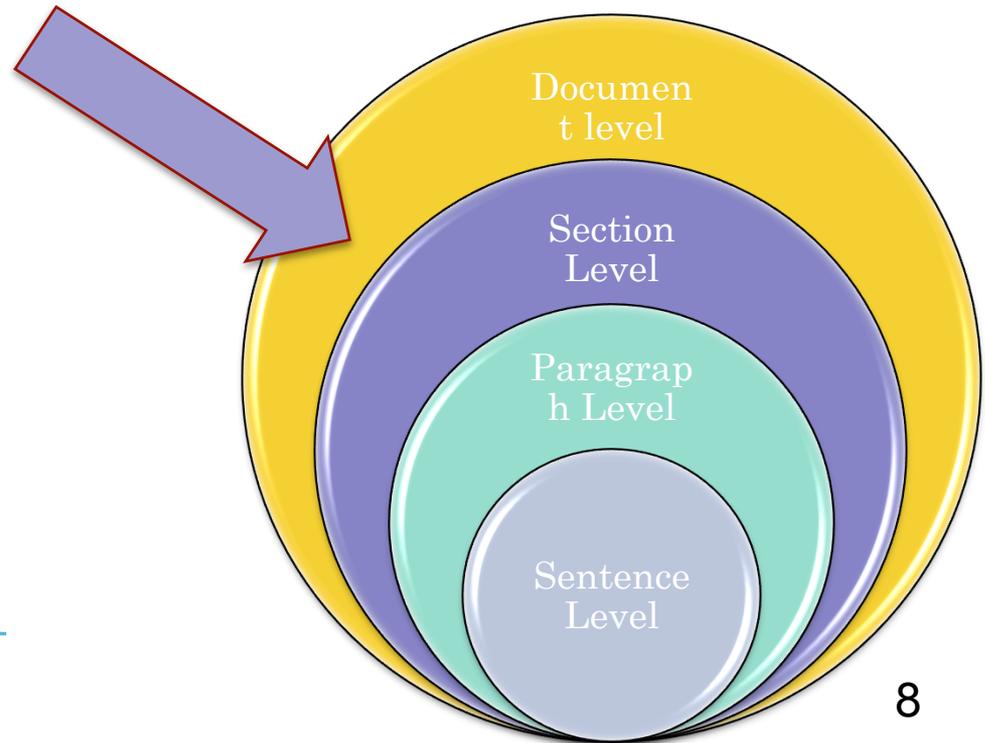
2.0 LEVELS OF CLARITY

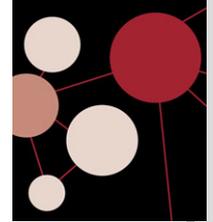
○ Document Level

2.0 Section Level ✓

○ Paragraph Level

○ Sentence Level





2.0 SECTION-LEVEL CLARITY

Use headings as stipulated by guidelines:

- What you want to do (central hypothesis, research question, specific objectives)
- Why this is a reasonable thing to do (review of previous work done on the subject matter, rationale)
- Why this is important (new knowledge to be obtained, improvements to health which will result)
- How you are going to do it (work plan, timelines, detailed descriptions of methods, analysis and discussion/interpretation of results, pitfalls, ways around the pitfalls, alternatives)
- Why you should do it (relevant prior experience and skills, collaborators for technical gaps, preliminary data showing feasibility)
- What you and any other Principal Applicant(s) and/or Co-Applicant(s) will do (description of roles)

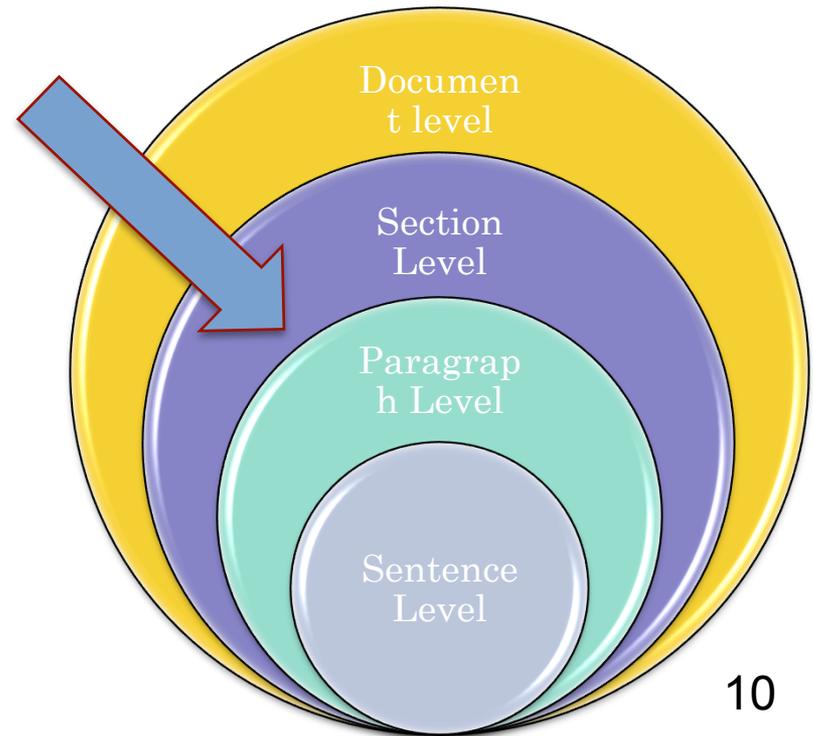
3.0 LEVELS OF CLARITY

- Document Level

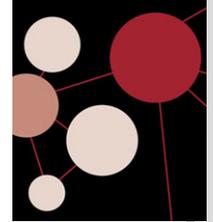
- Section Level

3.0 Paragraph Level ✓

- Sentence Level

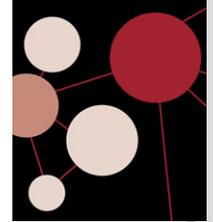


PARAGRAPH AND SENTENCE LEVEL CLARITY



HOW READERS READ:

- Achieving clarity is difficult. Why?
- Readers don't just “read” your prose; they *interpret* it
- They *examine* the prose structure to identify your/the writer's main ideas
- They *assemble* a pattern of ideas which becomes the meaning of the sentence (*for them*)
- They *link* the ideas from sentence to sentence, from paragraph to paragraph
- They *build* an understanding of what the sentence, then the paragraph, then the whole document is “about”



PARAGRAPH LEVEL CLARITY

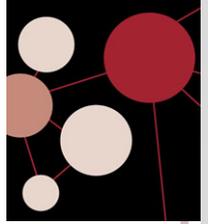
- Topic sentences
 - Explicit (start of paragraph, end of paragraph)
 - Implicit (unstated organizing principle)
- Cohesion between sentences
 - Link start to start
 - Link end to start

“Lele et al. (2007) introduced a **new method, called data cloning**, for the likelihood analysis of general nonlinear state-space population time series models.”



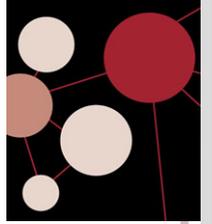
Readers expect the following paragraph to talk about the new method, “data cloning.”

PLAIN LANGUAGE GUIDELINES FOR “LAY” ABSTRACT



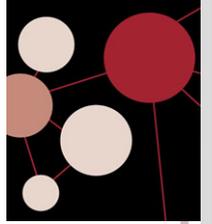
- Plain language involves an ethical relationship between reader and writer
- Writers want to communicate clearly with readers
- Take your readers’ point of view
- Organize ideas around what your reader needs to know

WAYS TO ORGANIZE INFORMATION IN “LAY” ABSTRACT



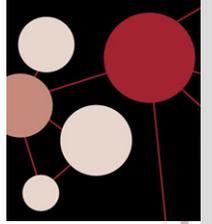
- A series of questions and answers
- Put the most important information first
- Include everything readers need to know to understand and/or to act
- Use bullet points to emphasize main ideas or points

WORD-LEVEL PLAIN LANGUAGE IN “LAY” ABSTRACT



- Use words that are accurate, appropriate, and familiar.
- Use technical jargon sparingly; do not use business jargon at all.
- Use active verbs most of the time.
- Use strong verbs (not nouns) to carry the weight of your sentences.

HOW DO I SHORTEN SENTENCES IN “LAY” ABSTRACT?



- Include only one or two ideas in a sentence.
- Explain qualifiers or modifiers to an idea in separate sentences.
- Explain any conditions attached to the main idea in separate sentences.
- Avoid using “and” to connect ideas that can be rewritten in separate sentences

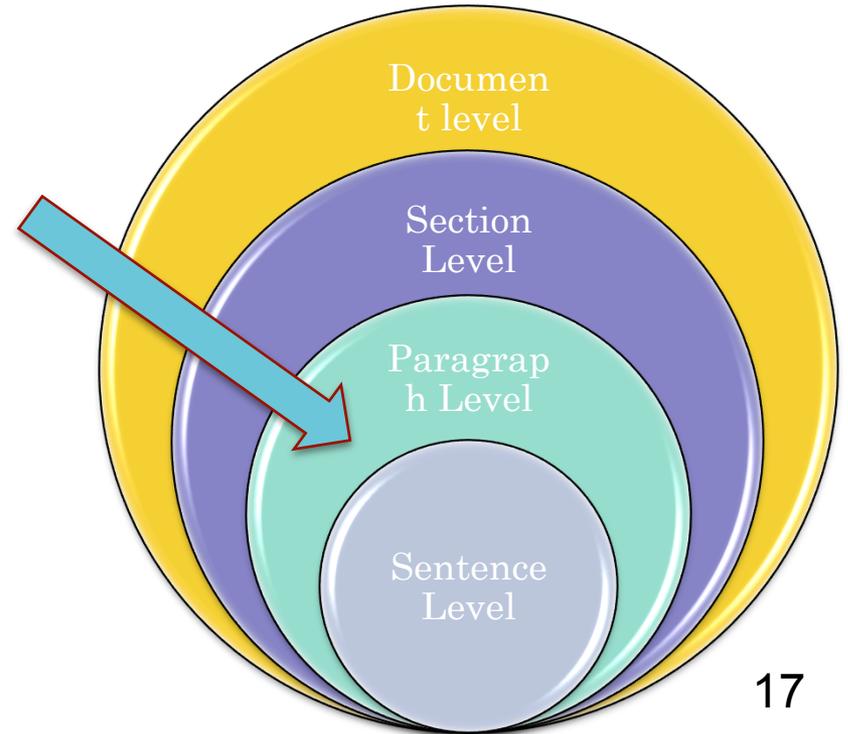
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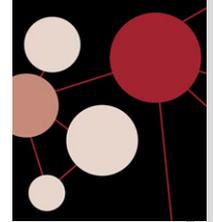
○ Section Level

3.0 Paragraph Level ✓

4.0 Sentence Level ✓



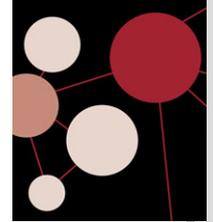
DEFINITIONS: WHAT READERS DON'T EXPECT



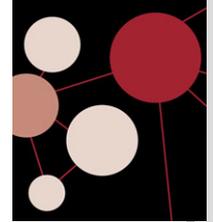
Features	Class	Term
Light bulb without a filament Doesn't get hot	Semiconductor	LED
Solid at room temperature Liquid when heated	Fats from animals and some tropical plants	Saturated fat

WHAT READERS *DO* EXPECT

LEFT TO RIGHT: OLD TO NEW

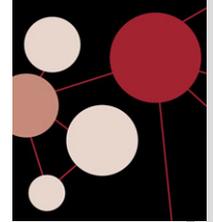


Term	Class	Features
LED	Semiconductor	Light bulb without a filament Doesn't get hot
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COHESION

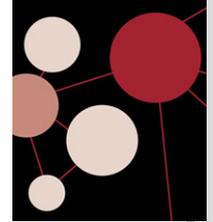
- Link sentences from start to start
“Various **techniques** have been used to deposite a film or coating on a substrate located in a vacuum chamber. **One technique** simply is to vaporize a metal thermally. **Another technique** is referred to as chemical vapor deposition . . .



COHESION

- Link sentences from end to start

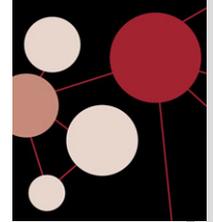
“There are no universal guidelines for the level at which glucose intolerance should be labeled as gestational diabetes, making the **diagnosis of gestational diabetes** controversial. Currently, for a **diagnosis of gestational diabetes**, the criteria . . .



1. SIX ACTIONS THAT IMPROVE CLARITY

1. Place a main idea as your sentence subject.
2. Place important ideas at the sentence end for emphasis.
3. Place one idea in each syntactic structure.
4. In the subject position, place old information that links back; put new information that readers need at the point of emphasis (the end).
5. Locate the subject and verb close to one another.
6. Use verbs rather than nominalizations to express action in sentences.

READERS SEE THE SUBJECT AS IMPORTANT: IDENTIFY SENTENCE SUBJECTS

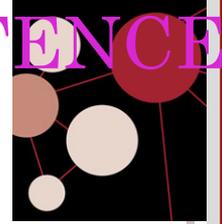


The last decade has seen an enormous growth in statistical methods to deal with detection error (MacKenzie et al. 2006, Royle and Dorazio 2008). One approach that has been widely adopted is that of multiple visit surveys that use an N-mixture approach to estimate detection error for count data (Royle 2004). In the N-mixture approach, true abundance has typically been modeled using a Poisson or a Negative Binomial (NB) distribution, while detection error has been modelled as a Binomial observation process. True abundance rates in the Poisson or Negative Binomial model and detection probabilities of individuals in the Binomial model are commonly modeled as a function of habitat and survey-specific characteristics. . . .

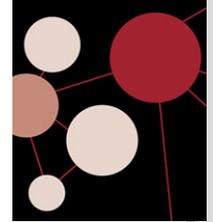
Pink type = subject

1. PLACE MAIN IDEA AS SUBJECT OF SENTENCE

SUBJECTS: CHOOSE NOUNS THAT REFLECT YOUR MAIN IDEAS

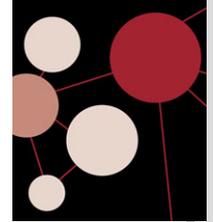


Statistical methods to deal with detection error . . . have grown enormously in the last decade. **One method** that has been widely adopted is that of multiple visit surveys that use an N-mixture approach to estimate detection error for count data (Royle 2004). In the N-mixture approach, **true abundance** has typically been modeled using a Poisson or a Negative Binomial (NB) distribution, while **detection error** has been modelled as a Binomial observation process. **True abundance rates** in the Poisson or Negative Binomial model and **detection probabilities** of individuals in the Binomial model are commonly modeled as a function of habitat and survey-specific characteristics.



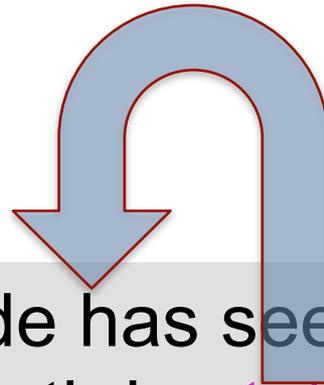
CLARITY

- Place the context of familiar information on the left, at the start of a sentence
- Place main ideas as the subjects of sentences
“In the past **various techniques** have been used to deposit a film or coating on a substrate located in a vacuum chamber. **One technique . . .**”



NOW TAKE A LOOK AT YOUR DRAFT.

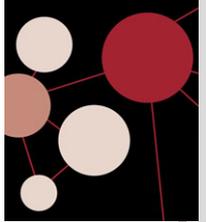
- Underline the subjects and see whether each subject contains a noun that is the main idea.
- Should you revise some of your subjects to move the main idea to the front?

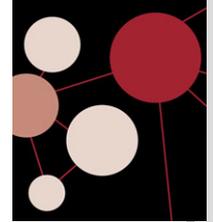


The last decade has seen an enormous growth in **statistical methods** to deal with detection error.

2. SIX ACTIONS THAT IMPROVE CLARITY

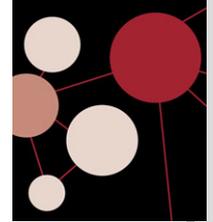
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CLARITY

- Place important ideas at the end of sentences to emphasize them
“Obesity is increasing at unprecedented rates **worldwide.**”
- In this case above the sentence emphasizes the scope of the problem by putting “worldwide” at the end of the sentence
“Obesity worldwide is increasing at **unprecedented rates.**”
- In this second example, the emphasis is on the rate of increase

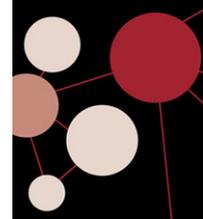


WHAT READERS PAY ATTENTION TO

- Beginning of sentences is a point of emphasis.
- End of sentences is also a point of emphasis:

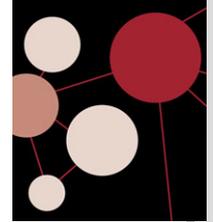
Multiple visit methods assume a closed population, that is abundances do not change during the full survey period . . . or **assume certain types of migration/movement patterns** We replace this assumption by requiring that covariates that affect detection and abundance **are available**. We argue such covariates are common **in most ecological studies**. For example, covariates that affect detection of birds can often be obtained from the most basic characteristics of the surveys, **i.e., time of day, time of year, and observer**. 29

Pink type = end position



HOW READERS DISTINGUISH KEY INFORMATION

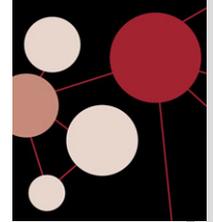
- Readers place value on the information at the end of a sentence
- They work to build a context around that material
- Unimportant information at the end of sentence will be treated as important because of its placement



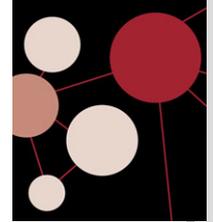
CLARITY AND SENTENCE ENDINGS

- Information at the end should also have logical links with earlier information
- Readers use subjects (or info in earlier syntactical units) to build a context for new information in the place of emphasis (the end)
- Weak endings risk readers missing important information they need to understand the point
- Use the ends of sentences as places to locate information you want to emphasize

2. PLACE IMPORTANT IDEAS AT THE END OF SENTENCES TO EMPHASIZE THEM.



Multiple visit methods assume a closed population, that is abundances do not change during the full survey period . . . or **assume certain types of migration/movement patterns . . .** We replace this assumption by requiring that covariates are available **that affect detection and abundance**. We argue that in most ecological studies such **covariates are common**. For example, covariates that affect detection of birds can often be obtained from the most basic characteristics of the surveys, **i.e., time of day, time of year, and observer**.

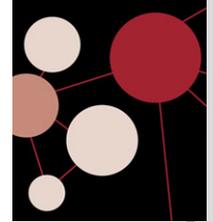


NOW TAKE A LOOK AT YOUR DRAFT.

- Look at the last idea in each sentence (or syntactic unit).
- Is this idea an important one in the sentence?
- Should you revise some of sentences to move the important idea to a place of emphasis?

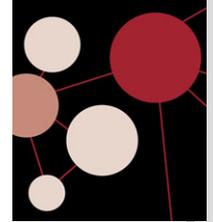
We replace this assumption by requiring that **covariates that affect detection and abundance** are available.





3. SIX ACTIONS THAT IMPROVE CLARITY

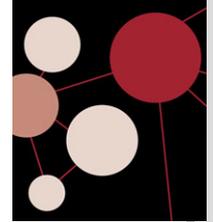
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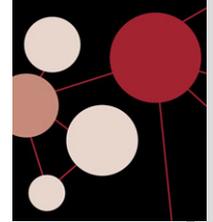
CLARITY

- Place one point in each syntactic structure or unit containing a subject and verb
“Highly transparent conducting ZnO films have been deposited using ion-beam-assisted reactive vacuum deposition.”

SYNTACTIC STRUCTURE (I.E., UNIT CONTAINING A SUBJECT AND VERB)

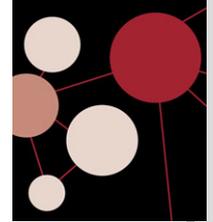


Highly transparent conducting ZnO films have been deposited using ion-beam-assisted reactive vacuum deposition. The zinc deposition rate was controlled by adding gallium to the zinc in an open Al_2O_3 crucible source. Oxygen was introduced into the system via a separate controlled leak and reacted with the zinc on the substrate. Mechanically stable polycrystalline conducting ZnO films having a preferred orientation were deposited with resistivities in the range from 4.0×10^{-6} to $9.0 \times 10^{-6} \Omega \text{ m}$, with carrier densities of more than $2 \times 10^{26} \text{ m}^{-3}$ and Hall mobilities between 2.8×10^{-3} and $4.0 \times 10^{-3} \text{ m}^2 \text{ V}^{-1} \text{ s}^{-1}$. The average transmission exceeded 90% for films 350 nm thick in the wavelength range of the visible spectrum.



4. SIX ACTIONS THAT IMPROVE CLARITY

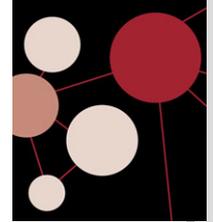
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CLARITY

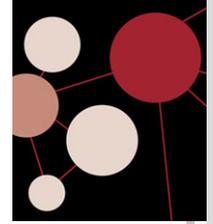
- Place old information that links back in the subject position, and put new information that you want readers to attend to at the point of emphasis
- “A major strength of this study was the detail with which **the variables** were collected. **This detail** allowed for more precise estimates [**data**] of the effect of alcohol. Using **data** on consumption . . .”

4. SUBJECT POSITION = OLD INFORMATION; NEW INFORMATION = THE END.

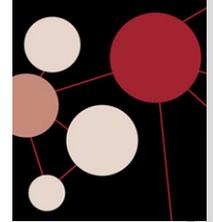


Population viability analysis (PVA) entails calculation of extinction risk, as defined by various extinction metrics, for a study population. These calculations strongly depend on the form of the population growth model and inclusion of demographic and/or environmental stochasticity. Form of the model and its parameters are determined based on observed population time series data. A typical population time series, consisting of estimated population sizes, inevitably has some observation error and likely has missing observations. In this paper, we present a likelihood based PVA in the presence of observation error and missing data. We illustrate the importance of incorporation of observation error in PVA by reanalyzing the population time series of song sparrow (*Melospiza melodia*) on Mandarte Island, British Columbia, Canada from 1975-1998.

THE COLOURS INDICATE RELATIONSHIPS BETWEEN OLD, NEW, AND REPEATED INFORMATION.

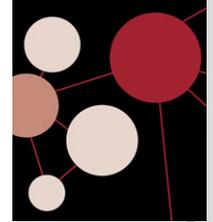


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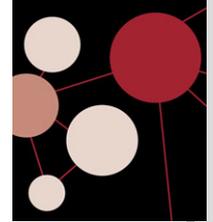
NOW TAKE A LOOK AT YOUR DRAFT.

- Have you put known information (from the reader's perspective) in the subject of the sentences and new/unfamiliar information towards the end of the sentences?
- Have you repeated information from earlier in the paragraph (or the previous sentence, e.g., what *was* the new information) to help readers link and contextualize the new/unfamiliar ideas?



5. SIX ACTIONS THAT IMPROVE CLARITY

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5. Locate the subject and verb close to one another.
6. Use verbs rather than nominalizations to express action in sentences.



CLARITY

- Locate the subject and the verb close to one another

Not close:

“A method for the reactive plating of substrates to produce transparent conducting films and photoactive coatings **is disclosed.**”

Close:

“A method **is disclosed** for the reactive plating of substrates to produce transparent conducting films and photoactive coatings.”

5. LOCATE THE SUBJECT AND VERB CLOSE TO ONE ANOTHER.

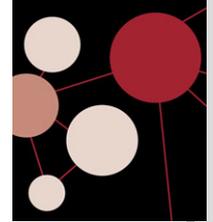
Original: A method for the reactive plating of substrates to produce transparent conducting films and photoactive coatings is disclosed.

Revised: A method is disclosed for the reactive plating of substrates to produce transparent conducting films and photoactive coatings.

Original: Links other than the log-link for the Poisson model can also be used.

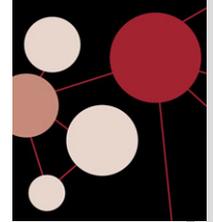
Revised: One can also use links other than the log-link for the Poisson model.

Does this revision work?



6. SIX ACTIONS THAT IMPROVE CLARITY

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4. In the subject position, place old information that links back; put new information that readers need at the point of emphasis (the end).
5. Locate the subject and verb close to one another.
6. Use verbs rather than nominalizations to express action in sentences.



CLARITY

- Use verbs rather than nominalizations to express action in your sentences

Nominalizations

“This trial will involve the process of construct validation, with the ultimate goal of contributing knowledge to the validity of the **interpretations** that are made on the basis of the exam mark.”

Revised

“This trial examines the process of construct validation. The process aims to contribute knowledge that will help instructors **interpret** grades validly based on the exam mark.”

READERS EXPECT SUBJECTS TO CONTAIN SOME KIND OF ACTOR IN THE STORY

Recently, **state-space models have been used** to accommodate observation error (also called measurement error) and missing values (McGowan et al. 2011) in ecological analyses. A **state-space model consists** of two components: a stochastic model for unobserved population abundances and a stochastic model for the observation error (de Valpine and Hastings 2002). **State-space models provide** a flexible framework for estimating parameters of the population growth models in the presence of process variation and observation

“State-space models” are the subject/the actor.

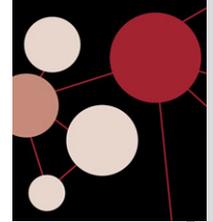
- Readers also expect that actions in the sentence will be expressed in the verb.
- If the verbs contain no action and the subjects contain no actors, readers have no structural information about where the actions are described. They have to GUESS what the actions are.

Are these verbs descriptive enough to convey the action?

6. USE VERBS RATHER THAN NOMINALIZATIONS TO EXPRESS ACTION IN SENTENCES.

Since the pioneering work of Shaffer (1981), Population viability analysis (PVA) has become a key tool in wildlife **management and conservation** (Beissinger 2002). It is a procedure that uses population abundance data and population growth models to estimate the probability that a population will persist for a specified time into the future (Mills 2008). A typical PVA constitutes **data collection, model formulation, model estimation and validation, and estimation** of the extinction risk (Ralls et al. 2002).

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NOW TAKE A LOOK AT YOUR DRAFT

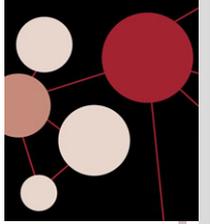
- Are the subjects and verbs located near one another?
- Do your sentences contain actors in the subjects?
- Do your verbs contain actions?
- Are there nominalizations that you can revise into descriptive verbs to supply readers with structural clues as to what ideas are important?



This trial **will involve** the process of **study construct validation**.

This trial **evaluates** whether the **study constructs are valid**.

REVIEW: SIX ACTIONS THAT IMPROVE CLARITY



1. Place a main idea as your sentence subject
2. Place important ideas at the sentence end for emphasis
3. Place one idea in each syntactic structure
4. In the subject position, place old information that links back; put new information that readers need at the point of emphasis (the end).
5. Locate the subject and verb close to one another.
6. Use verbs rather than nominalizations to express action in sentences.