



WELCOME BACK!

**ENGINEERING
TECHNICAL
COMMUNICATIONS
WEEK #6
LESSON 2**

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Announcements

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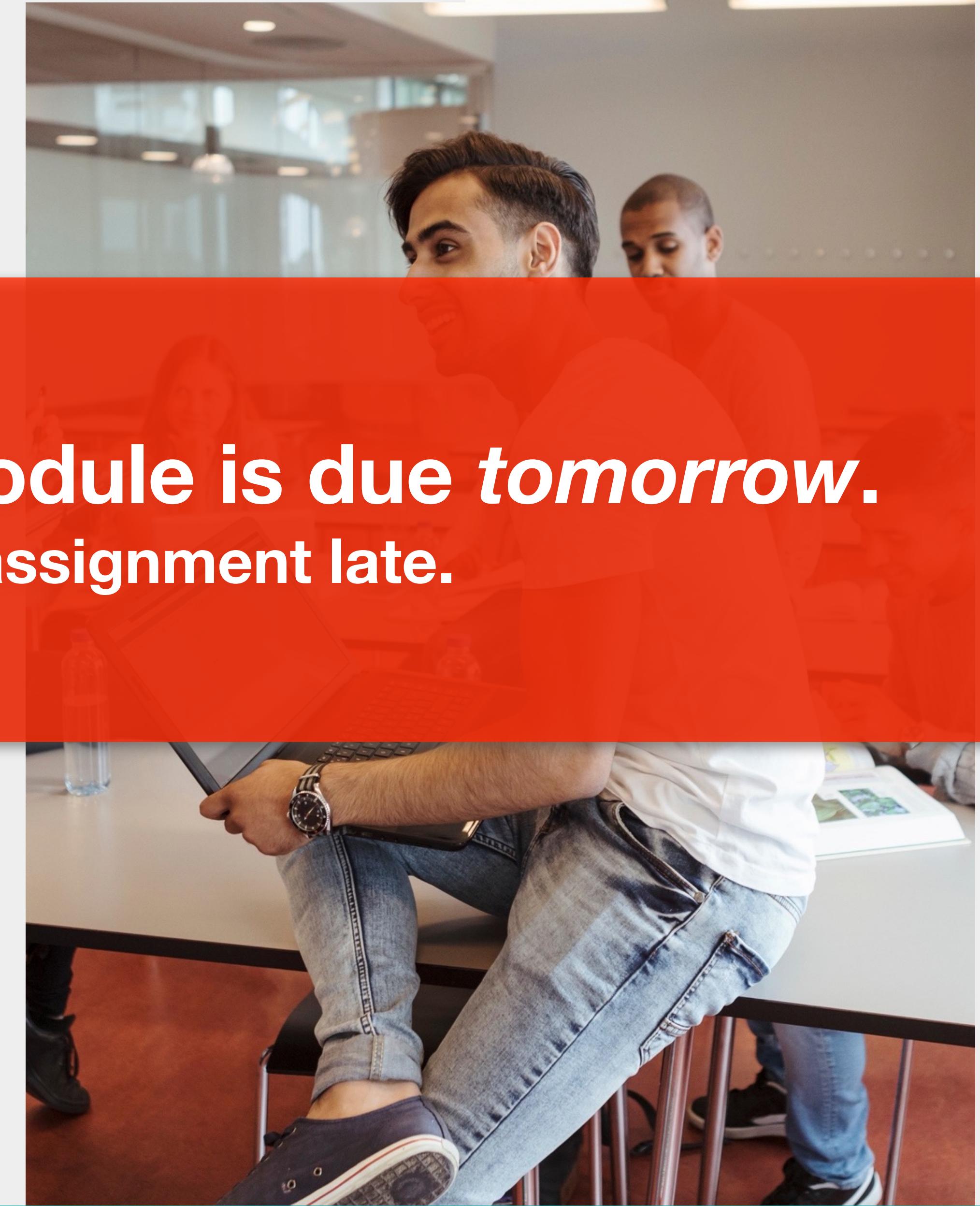
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Assignment #1: Project Problem Description

Due Friday



Next week is Reading Week!



RECAP

LAST CLASS

- Parallelism Activity
- Writing Technical Sentences
- In-Class Exercise #3

Today:

- Review: In-Class Exercise #3
- Writing Technical Paragraphs
- Stop-Start-Continue Survey

Review: In-Class Exercise #3

Please edit the following sentences to make them as clear and concise as possible, without changing their meaning.

1. There is a type of species called a keystone species that is one that has a disproportionately large effect on its host environment when compared to its relatively small numbers.
2. Such species are described as playing a critical role in helping in the maintenance of the structure of an ecological community.
3. It is said that they have an effect on many other organisms in an ecosystem and help to determine the types and numbers of various other species in the community.
4. To give just one example, when wolves were reintroduced to the famous Yellowstone National Park they immediately began to hunt and prey on the elk that had been the only other major mammalian species in the area.
5. As an immediate consequence, the number of the elk population began to dwindle and as the elk began to learn to stay on the high ground to better see their predators and thereby stay safe, there were a number of startling changes that began to take place in the park.
6. In the valleys, all the various young saplings that the elk had been eating up to that point were now able to grow into full trees.
7. This had the consequent effect of attracting many species of bird that had been up to then missing from the area.
8. What happened also is that because the streams and the rivers were once again shaded by trees, their temperature dropped and this had the resultant effect of allowing trout to return and indeed to thrive.
9. With the abundance of trees, beavers once again found a home in the area, where they built the dams for which they are so known, and this created ponds that attracted frogs, as well as the predators of frogs such as snakes.
10. It was in this way that wolves even despite their small number were nonetheless able to affect the restoration of the balance and also of the diversity of the ecosystem in Yellowstone National Park.

1.

There is a type of species called a keystone species that is one that has a disproportionately large effect on its host environment when compared to its relatively small numbers.

1.

A keystone species has a disproportionately large effect on its environment compared to its numbers.

2.

Such species are described as playing a critical role in helping in the maintenance of the structure of an ecological community.

2.

Such species play a critical role in maintaining the structure of an ecological community.

3.

It is said that they have an effect on many other organisms in an ecosystem and help to determine the types and numbers of various other species in the community.

3.

They affect many other organisms in an ecosystem and help to determine the types and numbers of other species in the community.

4.

To give just one example, when wolves were reintroduced to the famous Yellowstone National Park they immediately began to hunt and prey on the elk that had been the only other major mammalian species in the area.

4.

For example, when wolves were re-introduced to Yellowstone National Park, they immediately began to prey on the elk, which were the only major mammals in the area.

5.

As an immediate consequence, the number of the elk population began to dwindle and as the elk began to learn to stay on the high ground to better see their predators and thereby stay safe, there were a number of startling changes that began to take place in the park.

5.

Immediately, the elk population began to dwindle, and as the elk began to stay on high ground to better see their predators at a safe distance, several startling changes began to happen in the park.

6.

In the valleys, all the various young saplings that the elk had been eating up to that point were now able to grow into full trees.

6.

In the valleys, the saplings the elk had been eating were able to grow into full trees.

7.

This had the consequent effect of attracting many species of bird that had been up to then missing from the area.

7.

Consequently, this attracted many bird species that had been missing from the area.

8.

What happened also is that because the streams and the rivers were once again shaded by trees, their temperature dropped and this had the resultant effect of allowing trout to return and indeed to thrive.

8.

Also, because the streams and rivers were once again shaded by trees, their temperature dropped allowing trout to return and thrive.

9.

With the abundance of trees, beavers once again found a home in the area, where they built the dams for which they are so known, and this created ponds that attracted frogs, as well as the predators of frogs such as snakes.

9.

With the abundance of trees, beavers returned to the area, built dams, and created ponds that attracted frogs and their predators, such as snakes.

10.

It was in this way that wolves even despite their small number were nonetheless able to affect the restoration of the balance and also of the diversity of the ecosystem in Yellowstone National Park.

10.

In this way, wolves, despite their small number, were able to restore balance and diversity to the ecosystem in Yellowstone National Park.

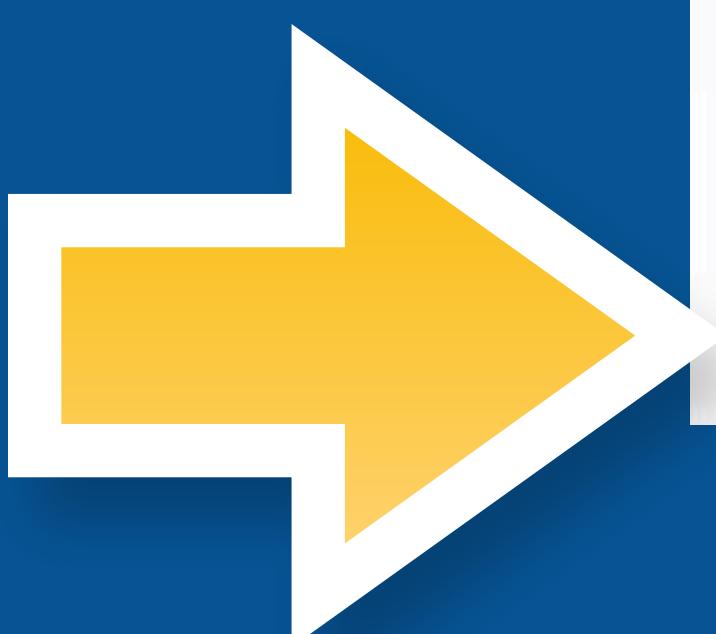
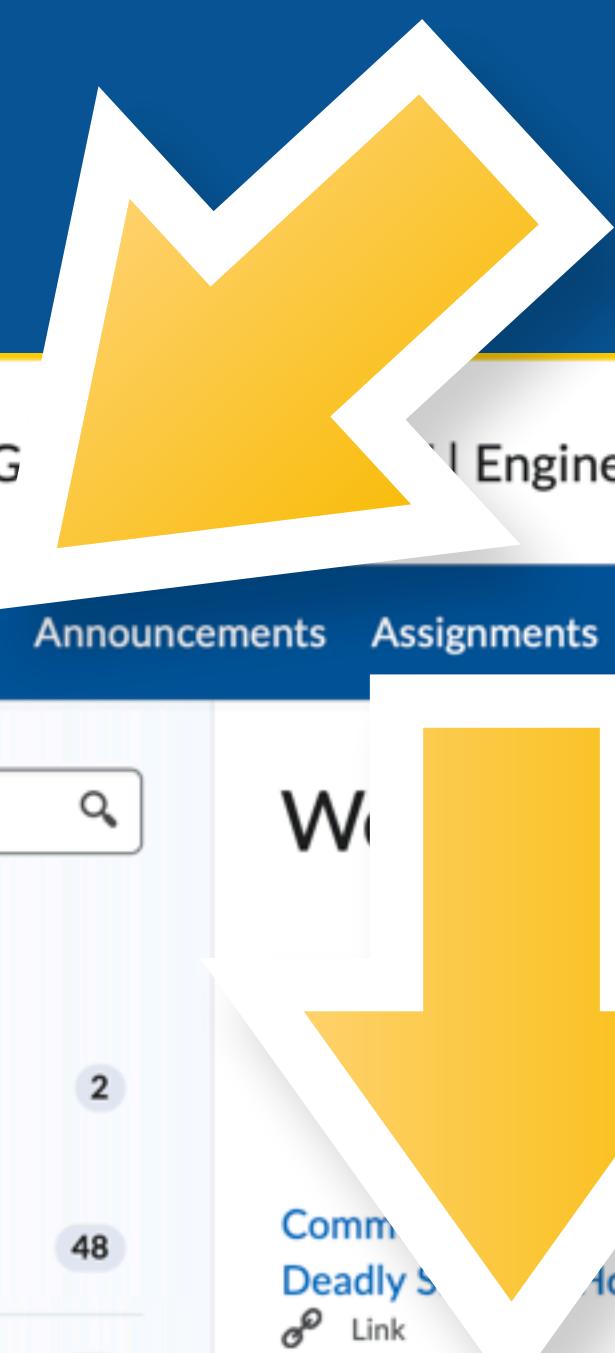
There is a type of species called a keystone species that is one that has a disproportionately large effect on its host environment when compared to its relatively small numbers. Such species are described as playing a critical role in helping in the maintenance of the structure of an ecological community. It is said that they have an effect on many other organisms in an ecosystem and help to determine the types and numbers of various other species in the community. To give just one example, when wolves were reintroduced to the famous Yellowstone National Park they immediately began to hunt and prey on the elk that had been the only other major mammalian species in the area. As an immediate consequence, the number of the elk population began to dwindle and as the elk began to learn to stay on the high ground to better see their predators and thereby stay safe, there were a number of startling changes that began to take place in the park. In the valleys, all the various young saplings that the elk had been eating up to that point were now able to grow into full trees. This had the consequent effect of attracting many species of bird that had been up to then missing from the area. What happened also is that because the streams and the rivers were once again shaded by trees, their temperature dropped and this had the resultant effect of allowing trout to return and indeed to thrive. With the abundance of trees, beavers once again found a home in the area, where they built the dams for which they are so known, and this created ponds that attracted frogs, as well as the predators of frogs such as snakes. It was in this way that wolves even despite their small number were nonetheless able to affect the restoration of the balance and also of the diversity of the ecosystem in Yellowstone National Park.

A keystone species has a disproportionately large effect on its environment compared to its numbers. Such species play a critical role in maintaining the structure of an ecological community. They affect many other organisms in an ecosystem and help to determine the types and numbers of other species in the community. For example, when wolves were re-introduced to Yellowstone National Park, they immediately began to prey on the elk, which were the only major mammals in the area. Immediately, the elk population began to dwindle, and as the elk began to stay on high ground to better see their predators at a safe distance, several startling changes began to happen in the park. In the valleys, the saplings the elk had been eating were able to grow into full trees. Consequently, this attracted many bird species that had been missing from the area. Also, because the streams and rivers were once again shaded by trees, their temperature dropped allowing trout to return and thrive. With the abundance of trees, beavers returned to the area, built dams, and created ponds that attracted frogs and their predators, such as snakes. In this way, wolves, despite their small number, were able to restore balance and diversity to the ecosystem in Yellowstone National Park.





Stop-Start-Continue Survey



 University of Windsor GENG General Engineering Technical Com...      Jesse Ziter as Learner 

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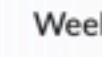
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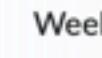
 Course Schedule 2

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W  0 % 0 of 2 topics complete

Comm
Deadly S  Link

Tools for Engineers: The Seven Deadly Sins of Engineering: How to Overcome Them

Stop-Start-Continue Survey 

 Survey
 Ends Feb 14, 2023 11:59 PM

The survey includes three simple questions and should take a matter of minutes to complete. It allows you to tell me, Professor Ziter, what you would like me to start, stop, and continue doing when I teach this course. This survey is anonymous, but Blackboard will record whether you have completed it. Please offer honest and constructive feedback in order to enhance your experience in this class.

This survey counts for grading purposes as one In-Class Exercise.

The Stop-Start-Continue Survey is due on *Wednesday* before 4:00 p.m.

Technical Paragraphs

Technical Paragraphs

- Keep paragraphs short.
- Begin with a topic sentence.
- Make paragraphs unified.
- Make paragraphs complete.
- Make paragraphs cohesive and coherent.

Keep paragraphs short

Keep Paragraphs Short

- Sentences should average no more than 20 words (average!).
- Paragraphs should average no more than 7 lines (average!).
- One-sentence paragraphs are perfectly legitimate.
- If longer, pare down your writing or break the sentence or paragraph in two.

Begin Paragraphs with a topic sentence

- The topic sentence states, summarizes, or forecasts the main point of the paragraph.
- The topic sentence **should come first**. This way, the reader knows what to expect in the rest of the paragraph.
 - Quicker comprehension of paragraph
 - Easier to scan and find information in the report as a whole.

To optimize a building for passive solar thermal control, the first consideration is the building's orientation on the site and its floorplan. Obviously, the longer side of the building should face due south if possible, to expose the walls and, especially, the glazing to the sun for as much of the day as possible. In general the ideal length-to-width ratio is between 1.3 and 1.5 to 1 . . .

Aside from orientation and layout, thermal mass also plays a vital role in managing and stabilizing temperature in a passive solar house. Thermal mass captures and stores solar radiation in the form of heat until the mass reaches ambient temperature. Only when the mass's temperature exceeds the ambient temperature, will it begin to release the stored heat. In this manner, thermal mass stabilizes indoor temperature throughout the 24-hour sun cycle . . .

However, much of the effort to capture and regulate thermal energy can be undone by furnishings. Carpet, for instance, can reduce a floor's solar gain by up to 70%; linoleum by up to 50%. The former insulates the floor; the latter reflects solar radiation. Bare concrete floors and ceramic tiling work best to ensure . . .

Another consideration is the landscaping surrounding the structure. Trees planted too close to the south-facing windows will prevent heat gain both in the summer, when it might be desirable, if properly accounted for, but also in the winter when shading will prevent heat gain entirely, especially if evergreens were planted. In this manner, changes made by owners to the landscaping can affect . . .

Begin Paragraphs With a Topic Sentence

Topic Sentences

To optimize a building for passive solar thermal control, the first consideration is the building's orientation on the site and its design.

Aside from orientation and layout, thermal mass also plays a vital role in managing and stabilizing temperature in a passive solar house.

However, much of the effort to capture and regulate thermal energy can be undone by furnishings.

Another consideration is the landscaping surrounding the structure.

Make Every Paragraph Unified

- The topic sentence announces the topic of the paragraph.
- Only information relevant to that topic belongs in that paragraph.
- Put information not relevant to the topic in a different paragraph (or document).

Make Every Paragraph Complete

- A complete paragraph is one that presents all the information the reader will need to understand the idea developed in the paragraph.
- Remember that you must consider the needs of your audience – it is better to provide too much information than too little.

Make Every Paragraph Cohesive And Coherent

- It's not enough to put all the right information into grammatically correct sentences.
- The sentences also have to work well together.
- Their logical relationships have to be apparent to the reader.
- Cohesion refers to the way the sentences connect.
- Coherence refers to how understandable the text is.

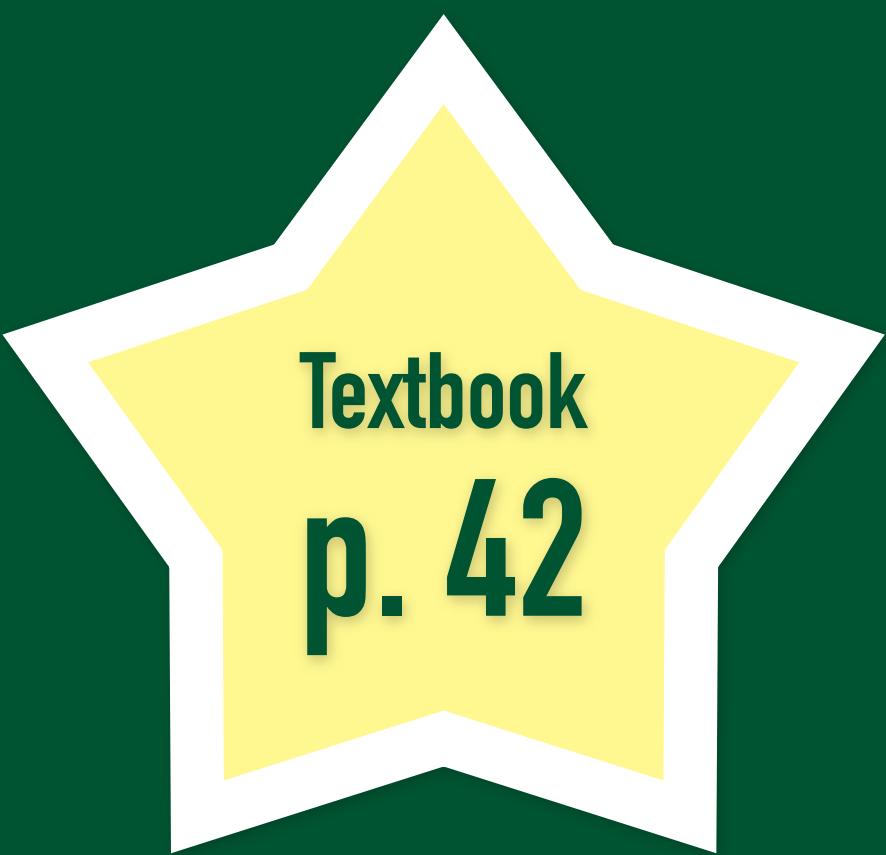
Make Every Paragraph Cohesive And Coherent

1. Put sentences in the right order
2. Link related ideas with transitions / connectors
3. Ensure clear line of reasoning and conclusion

Make Every Paragraph Cohesive And Coherent

- Writers use three strategies to achieve cohesion / coherence (we'll talk more about these strategies later!):
 1. Given-new repetition
 2. Transition words
 3. Variegated sentence patterns

1. Given-New Repetition



One of the ways in which passive solar houses use the sun's energy to maintain a comfortable, constant indoor temperature is through thermal mass. Essentially, thermal mass is material (mass) that requires a lot of energy to warm up. It therefore warms up slowly when ambient temperature is higher, drawing heat from the house, and releases heat energy slowly when the ambient temperature is lower, heating the house. This ability to store a lot of heat is called the thermal capacitance, denoted by the symbol C_{th} . Examples of materials with high thermal capacitance are concrete, gypsum board, and ceramic tiles.

2. Transition Words

- Transition words show the relationship between ideas
- Transitions can also show a shift in logic
- Be sure to choose a transition phrase that indicates the appropriate relationship between ideas

Transition Words

Agreement (and)

- *In addition, also, too, likewise, moreover, furthermore*

Contrast (but, or)

- *However, rather, instead, although, while, whereas, despite*

Cause and effect

- *Because, as, since, if...then, therefore, consequently, as a result*

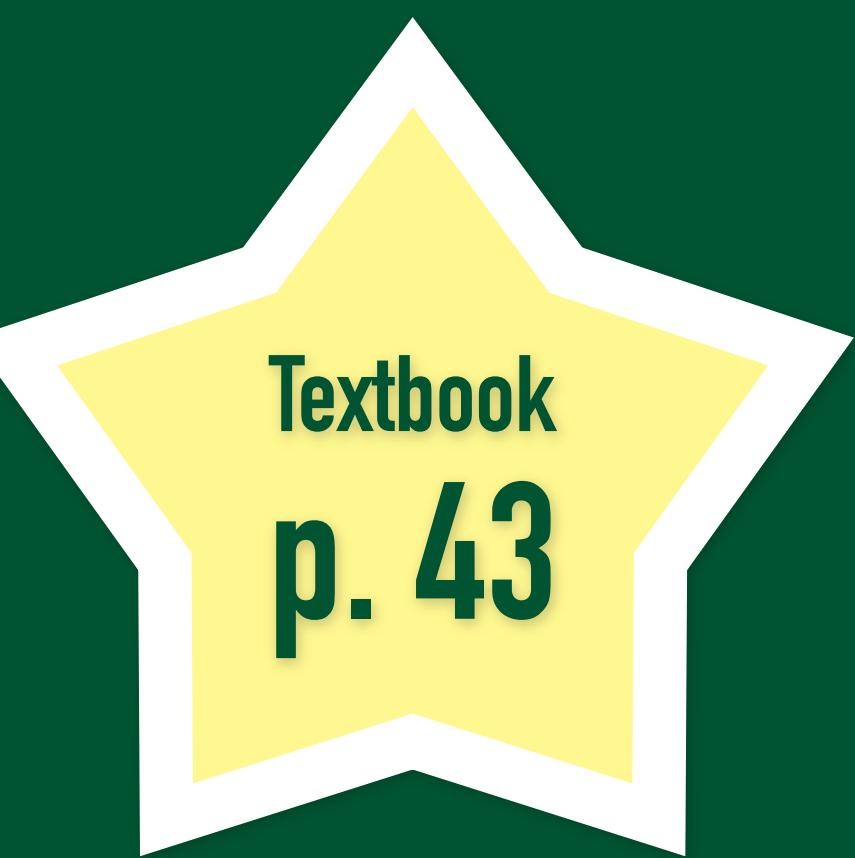
Illustration

- *Such as, including, for example, particularly, especially, specifically*

Time

- *Previously, afterwards, immediately, simultaneously*

Transition Words



Dave is a mechanical engineer who for many years designed heavy lifting equipment such as harbour cranes. **Gradually**, he came to do less and less engineering and more and more project management. **Eventually** his company was bought out and he was downsized. There was no work in his field, but **because** he had good project management skills, he was able to find work supervising the development of a processing facility at a mine.

3. Variegated Sentence Patterns

Vary sentence construction:

1. Simple sentences
2. Coordinated sentences
3. Subordinated sentences
4. Embedded sentences

Simple Sentences

- Provide no clue how the sentences relate to one another, other than by proximity.
- When strung in a row, they sound very choppy.

Example

We are experiencing an early spring. Rain is combining with melting snow. Extensive flooding is likely.

Coordinated Sentences

- Combine sentences using a coordinating conjunction to make their relationship clear: *and, for, so, nor, yet, but, or.*
- Use a comma before coordinating conjunctions.

Example

We are experiencing an early spring, so rain is combining with melting snow. Extensive flooding is likely.

Subordinated Sentences

- A subordinate clause is one that cannot stand by itself as a sentence.
- It is usually introduced by a subordinating conjunction, such as *because*, *whereas*, *even though*.

Example

Because the early spring is combining rains with melting snow, extensive flooding is likely.

Embedded Sentences

- An embedded sentence is one that has been turned into a phrase.

Example

Combining rain with melting snow, the early spring makes extensive flooding likely.

Varying Sentence Length

- Sentence lengths can range from short to medium to long.
- If we use the same sentence length repeatedly, the paragraph will become either choppy (with too many short or medium sentences) or tedious and difficult to read (with too many long sentences).
- The goal is to vary sentence length to make your words and sentences **flow**.

I worked in the engineering department. There were about 20 people on my floor. The educational background of my co-workers ranged between college and university. The age range was between 30 and 40. The main objective of my department was to provide support on various engineering projects. I was the only coop student in my department. My department worked with many other departments.

I worked in the engineering department. There were about 20 people on my floor, **and the** educational background of my co-workers ranged between college and university. The age range was between 30 and 40. The main objective of my department was to provide support on various engineering projects. **While** I was the only coop student in my department, **my** department worked with many other departments.

This sentence has five words. Here are five more words.
Five-word sentences are fine. But several together become
monotonous. Listen to what is happening. The writing is
getting boring. The sound of it drones. It's like a stuck record.
The ear demands some variety.

Now listen. I vary the sentence length, and I create music.
Music. The writing sings. It has a pleasant rhythm, a lilt, a
harmony. I use short sentences. And I use sentences of
medium length. And sometimes when I am certain the reader
is rested, I will engage him with a sentence of considerable
length, a sentence that burns with energy and builds with all
the impetus of a crescendo, the roll of the drums, the crash of
the cymbals—sounds that say listen to this, it is important.

So write with a combination of short, medium, and long
sentences. Create a sound that pleases the reader's ear. Don't
just write words. Write music.

-Gary Provost



Examples

- I sent you a copy by email.

- I emailed you a copy.

- He went to Toronto by car.

- He drove to Toronto.

- Attached please find a copy of our contract.

- I've attached a copy of our contract.

- There were many people in the overcrowded waiting room.

- The waiting room was overcrowded.

- The slope and stability consultant is doing an inspection of the open pit mine.

- The slope and stability consultant is inspecting the open pit mine.

- A decreasing number of students are studying the sciences, while an increasing number of students are studying business and economics.

- Fewer students are studying the sciences, while more students are studying business and economics.

- Municipal wastewater has a tendency to concentrate phosphorus and nitrogen.

- Municipal wastewater tends to concentrate phosphorus and nitrogen.

- There are three water pumps at the mine whose purpose it is to clear groundwater out of the shafts.

- Three pumps at the mine clear groundwater out of the shafts.

- It is possible that the retained-fill structure may cause interference with existing drainage patterns.

- The retained-fill structure may interfere with existing drainage patterns.

- There are some new safety protocols we need to have a discussion about, following the incident of the fire in the processing lab.

- We need to discuss some new safety protocols because of the fire in the processing lab.

- It was during the public meeting on the anticipated new transit route that it became abundantly clear that the preceding consultation process had completely failed to include in the consultation the seniors who were living in the area, with a special oversight being the lack of consultation of those seniors who had issues of one extent or another with their mobility.

- During the public meetings on the new transit route, it became clear that the consultation process had failed to include seniors in the neighbourhood, particularly those with mobility issues.

or

- The public meeting showed that seniors living in the area, particularly those with mobility issues, had not been consulted on the new transit routes.

- It is because Canada is such a very enormous country that is to a very large extent still covered by forests that are really enormous and, in fact, mostly intact, so that the very enormous deforestation that has taken place in much of the rest of the world is a very hard things for us to come to imagine clearly.

- Canada is a vast country covered by enormous, largely intact forests, so the enormous deforestation in much of the rest of the world is hard for us to imagine.

- While it is true that many international consumer electronics manufacturers will add Netflix buttons to their remote controls for the North American market, it is a fact that there may be severe monthly bandwidth limitations imposed on Canadian consumers may face severe monthly bandwidth limitations.

- While many consumer electronics manufacturers will add Netflix buttons to their remote controls for the North American market, Canadian consumers may face severe monthly bandwidth limitations

- Malware in the form of Trojan horse viruses for stealing corporate information are increasingly being distributed through free games for children because it is well known that when employees bring home their work laptops, their children will oftentimes download games onto them to play

- Trojan horse viruses for stealing corporate information are increasingly distributed through free games for children because when employees bring home their work laptops, their children will often download games onto them.