

Academic Writing for Graduate Students

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S3

Flow; Linking Words and Phrases

Pages 30 - 45

Flow

Another important consideration for successful communication is flow—moving from one statement in a text to the next. Naturally, establishing a clear connection of ideas is important to help your reader follow the text. We have already tried to demonstrate good flow of ideas in the water passage in Task Three.

TASK SIXTEEN

Read the passage and discuss the questions on page 31 with a partner.

① In many countries around the world, it is customary for consumers of hospitality and other services to provide gifts of money (called “tips”) to the workers who have served them. ② However, the specific service workers that are customarily tipped, and the amounts consumers give those workers, vary across nations. ③ For example, in the United States consumers tip over 30 different service professions, while no service professions are tipped in Iceland (Star, 1988). ④ In Mexico consumers tip restaurant servers 15% to 20% of the bill, but tip only 5% to 10% of the bill in Romania (Putzi, 2002). ⑤ These variations in tipping norms are sources of uncertainty for international travelers and phenomena to be explained by hospitality and tourism researchers. ⑥ International differences in tipping customs may be partially explained by differences in national values. ⑦ According to Hofstede (1983), national values differ on four major dimensions—power distance, uncertainty avoidance, individualism, and masculinity. ⑧ Power distance reflects a nation’s acceptance of power and status differences. ⑨ This value should be positively related to national acceptance of tipping because tipping gives customers power over servers (Hemenway, 1984; Lynn, 2000a).

Lynn, 2004.

1. How do you think the author establishes the relationship between the ideas?
2. Underline the grammatical subjects of Sentences 2–9. Can you find a link between each grammatical subject and the sentence that comes before it?
3. How would you explain the relationship between Sentences 1 and 2?
4. To what does *these variations* in Sentence 5 refer?
5. Which words are repeated in the text? Are you surprised by the amount of repetition of words in the text? Did you even notice this when you first read the passage?
6. What do you think Sentence 10 will discuss? Why?

Old-to-New Information Flow

Although your first instinct in establishing a smooth flow of ideas is to use logical connectors such as *however* or *furthermore*, many writers generally try to follow a progression from old or given information, which is in the subject position or early at the left end of the sentence, to new information, which is placed at the right end of the sentence. Placing relevant “old” information in early position establishes a content connection backward and provides a forward content link that establishes the context. Notice how this old-to-new pattern is established in this text.

- ① Research has shown that caffeine does indeed reduce sleepiness and can lead to better/academic performance since students can spend more time studying. ② Despite its effectiveness in counteracting sleepiness, caffeine can have a negative impact on subsequent sleep, which for many/students may already be compromised. ③ Specifically, caffeinated beverages consumed near bedtime at night can prolong sleep onset and reduce sleep efficiency and depth, thus affecting both sleep quality and duration. ④ Most of the research on how caffeine affects sleepiness/alertness has focused on coffee or no-doze pills. ⑤ However, a new kind of caffeinated drink has become increasingly popular, namely

functional energy drinks (FEDs). ⑥ FEDs are marketed as products that can improve both mental and physical performance. ⑦ In addition to containing caffeine, FEDs have other active ingredients such as taurine, glucose, and glucoronolactone. ⑧ Exactly how these ingredients together affect alertness remains unclear.

The old-to-new pattern of information is established by starting a text with some familiar information. In the following sentence, you can repeat some information from the previous sentence (exact repetition, in the form of a synonym or variation on the part of speech). In the energy drink example, you can see the repetition of caffeine in Sentences 1 and 2.

① Research has shown that caffeine does indeed reduce sleepiness and can lead to better academic performance since students can spend more time studying. ② Despite its effectiveness in counteracting sleepiness, caffeine can have a negative impact on subsequent sleep,

To tie two sentences together, you can repeat information from the beginning of the first sentence, as in the case of *caffeine* in Sentences 1 and 2. Alternatively, you can pick up information from the end of the first sentence (since, once read, this new information is now familiar). An example of this is Sentences 5 and 6.

⑤ However, a new kind of caffeinated drink has become increasingly popular, namely functional energy drinks (FEDs).
⑥ FEDs are marketed as products that can improve both mental and physical performance.

Note also how passive voice in Sentence 6 is essential here. The point about marketing might not be well connected using active voice. An old-to-new pattern can also be achieved by using *this/these* + a noun, which refers back to some or all of the preceding sentence. An example of this can be seen in this possible Sentence 9.

⑨ If this relationship could be explained, more effective FEDs could be developed.

If old-to-new cannot be easily maintained, writers will often opt to use a logical connector to make relationships clear, as in Sentences 4 and 5.

- ④ Most of the research on how caffeine affects sleepiness/alertness has focused on coffee or no-doze pills. ⑤ However, a new kind of caffeinated drink has become increasingly popular, namely functional energy drinks (FEDs).

Note that *a new kind of caffeinated drink* is new information that was not mentioned in Sentence 4. In order for the author to strongly establish the logical connection, the linking word, *however*, is added.

TASK SEVENTEEN

Work with a partner and answer these questions that focus on old-to-new flow of ideas.

1. The first sentence of a description of the biological clock follows. Given what you know about the old-to-new pattern of information, what are the two topics (or focal points) of the second sentence that the reader would likely expect?

The biological clock is a master clock that dictates the day-night cycle of activity known as circadian rhythm.

Topic 1: _____

Topic 2: _____

2. In fact, the writer produced Sentences 2 and 3. How clearly are Sentences 1, 2, and 3 connected to each other? Explain your opinion.

- ① The biological clock is a master clock that dictates the day-night cycle of activity known as circadian rhythm. ② The suprachiasmatic nucleus (SCN) was identified as the location of the clock in the brains of humans and animals. ③ Specialized clock genes are activated and deactivated mainly by a pair of proteins, one of which turns on a group of genes and the other of which turns off a key gene in a feedback loop that has a 24-hour rhythm (specifically a 24-hour and 18-minute rhythm).

3. What do you think of this revision? How does this differ from the first version?

❶ The biological clock is a master clock that dictates the day-night cycle of activity known as circadian rhythm. ❷ The clock was identified in a part of the brain called the suprachiasmatic nucleus (SCN). ❸ Within individual SCN cells, specialized clock genes are activated and deactivated mainly by a pair of proteins, one of which turns on a group of genes and the other of which turns off a key gene in a feedback loop that has a 24-hour rhythm (more precisely, a 24-hour and 18-minute rhythm).

4. In Sentences 4 and 5, the author wrote this:

❹ The biological clock functions regardless of the normal 24-hour cycle of light and darkness. ❺ Light is involved in resetting and regulating the clock.

Is the relationship between the two sentences clear? Could the author do anything to clarify how the two points are related? What? What about combining the two sentences into one?

Can you offer a revision here?

5. Let's assume Sentences 4 and 5 are combined into one.

④ Although the biological clock functions regardless of the normal 24-hour cycle of light and darkness, light is still involved in resetting and regulating the clock.

How well connected is this Sentence 5?

⑤ Sunlight resets the internal biological clock each day to synchronize the rhythms of activity of the clock genes, promoting the production of certain substances, such as hormones, which are necessary for maintaining good health.

6. What is the relationship between the information before *promoting* and the information after *promoting*? Should the author use a connector to make the relationship more clear?

7. In Sentence 6, the author wrote:

⑥ It was once thought that aging disrupts the biological clock.

Does this sentence flow smoothly from Sentence 5? If so, why? If not, why not?


8. Here are the final three sentences of the biological clock definition. Do you think they should be in their own paragraph? Why or why not?

⑥ It was once thought that aging disrupts the biological clock. ⑦ But, recent research (Czeisler et al., 2005) has shown that the body temperature and hormone fluctuations of the elderly are as regular as those of the young. ⑧ Doctors can consider this valuable information in the treatment of sleep disorders in the elderly.

9. What do you think about the connection between Sentences 7 and 8? Can you think of a better connection?

10. Now read these two texts on lasers in medicine. Which do you prefer? Why?

- A. ① Lasers have found widespread application in medicine. ② Lasers play an important role in the treatment of eye disease and the prevention of blindness. ③ The eye is ideally suited for laser surgery ④ Most of the eye tissue is transparent. ⑤ The frequency and focus of the laser beam can be adjusted according to the absorption of the tissue. ⑥ The beam “cuts” inside the eye with minimal damage to the surrounding tissue—even the tissue between the laser and the incision. ⑦ Lasers are effective in treating some causes of blindness. ⑧ Other treatments are not. ⑨ The interaction between laser light and eye tissue is not fully understood.
- B. ① Lasers have found widespread application in medicine. ② For example, they play an important role in the treatment of eye disease and the prevention of blindness. ③ The eye is ideally suited for laser surgery because most of the eye tissue is transparent. ④ Because of this transparency, the frequency and focus of the laser beam can be adjusted according to the absorption of the tissue so that the beam “cuts” inside the eye with minimal damage to the surrounding tissue—even the tissue between the laser and the incision. ⑤ Lasers are also more effective than other methods in treating some causes of blindness. ⑥ However, the interaction between laser light and eye tissue is not fully understood.
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 Language Focus: Linking Words and Phrases

As demonstrated in Task Seventeen, repetition and linking words and phrases can help a writer maintain flow and establish clear relationships between ideas. Table 1 lists some of the more common linking words and phrases, arranged according to their function and grammatical use.

TABLE 1. Linking Words and Phrases

Function	Subordinators (introduce a dependent clause that must be joined to a complete sentence)	Sentence Connectors (introduce a complete sentence or independent clause)	Phrase Linkers (introduce a noun phrase)
Addition		<i>furthermore</i> <i>in addition</i> <i>moreover</i>	<i>in addition to</i>
Adversativity	<i>although</i> <i>even though</i> <i>despite the fact</i>	<i>however</i> <i>nevertheless</i>	<i>despite</i> <i>in spite of</i>
Cause and effect	<i>because</i> <i>since</i>	<i>therefore</i> <i>as a result</i> <i>consequently</i> <i>hence</i> <i>thus¹</i>	<i>because of</i> <i>due to</i> <i>as a result of</i>
Clarification		<i>in other words</i> <i>that is</i> <i>i.e.</i>	
Contrast	<i>while</i> <i>whereas</i>	<i>in contrast</i> <i>however</i> <i>on the other hand</i> <i>conversely</i>	<i>unlike</i>
Illustration		<i>for example</i> <i>for instance</i>	
Intensification		<i>on the contrary</i> <i>as a matter of fact</i> <i>in fact</i>	

¹ Note that *thus* may also be used in non-finite clauses of result, as in this example: *A fungus infected the fruit, thus causing a significant economic loss to the farmers.* See Unit Three for further discussion of this point.

Sentence connectors raise a small, but important, issue—namely, punctuation. Many general style guides and style guides for your specific area of study are available (online and in book form) that can provide detailed explanations of punctuation use. Therefore, we will limit our discussion to a few key points regarding semicolons (;), colons (:), dashes (—), and commas (,). (See Figure 3.)

Semicolons join two completely independent clauses or sentences and work much like a full stop.

Air traffic delays due to high traffic volume have increased considerably over the last decade; these delays have become a major public policy issue.

Semicolons can be used with sentence connectors. In the following example, note the use of the comma after the connector.

Increasing the size of airports is one solution to traffic congestion; however, this is a long-term solution whose benefits may not be seen for many years into the future.

Because semicolons are a “stronger” type of punctuation than commas (they mark a stronger break in the flow of ideas), they can be used to break sequences into parts.

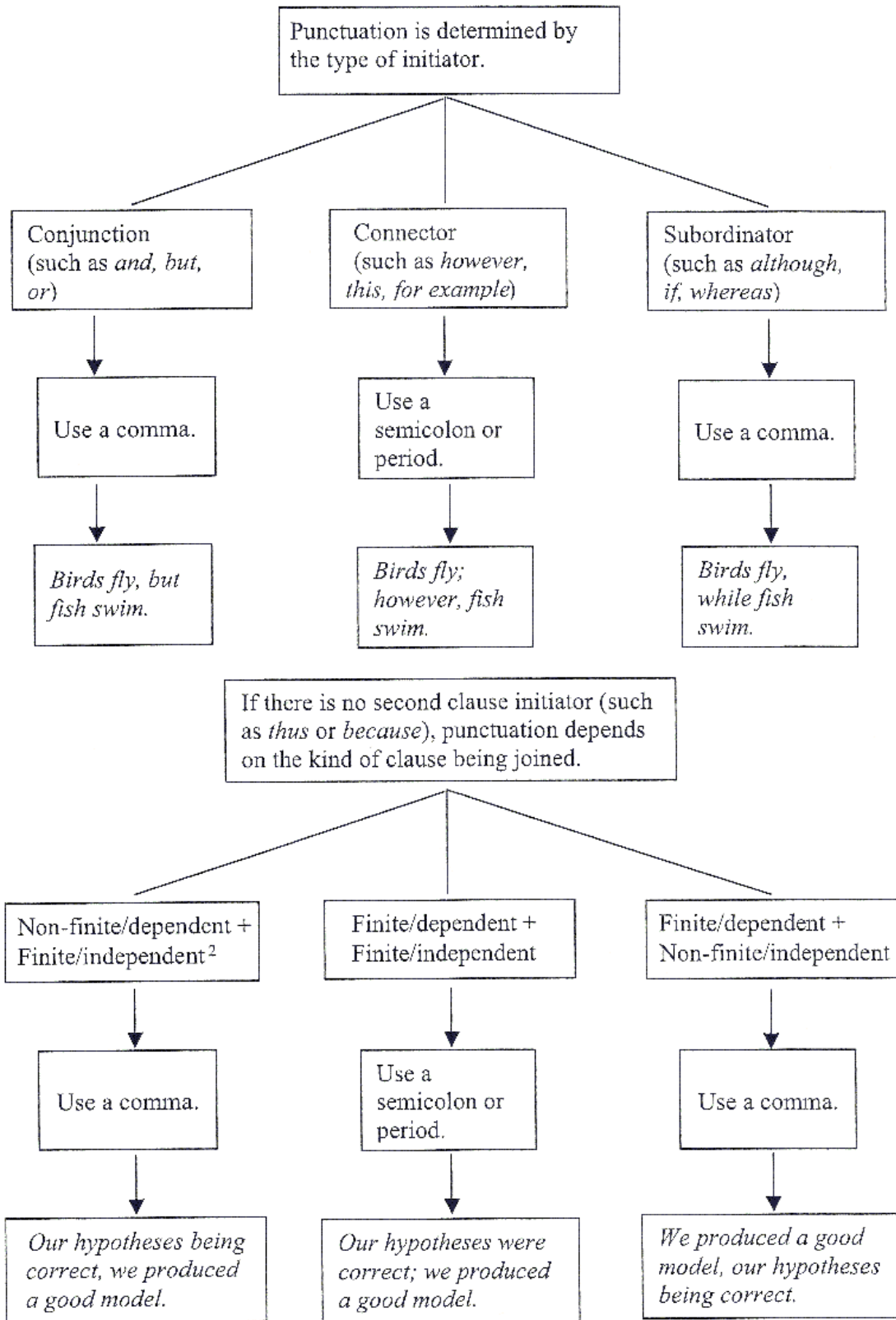
In recent years GNP growth rates have varied considerably for the countries in this study (China, 6%; U.S., 3%; Japan, 1%).

Several researchers have examined whether capital income should be taxed in the steady state (Moriyama, 2003; Correia, 1996; Chamley, 1986).

Semicolons can be used to separate rather long items in a list.

Some of the solutions to the air traffic delay problem include increasing the size of airports that routinely experience major flight delays; overhauling the air traffic control system so that more flights can be safely handled; and increasing landing fees (which are currently based on the weight of an aircraft) during peak periods.

FIGURE 3. Punctuation



²A finite verb is a main verb that is inflected to indicate tense and person.

Although commas could be used in the preceding example, the length of the elements suggests that semicolons would work better; note the use of the semicolon before *and* toward the end of the sentence. Similar considerations apply to sentences that use a colon to introduce a list.

There are four main causes of airport congestion: bad weather, excessive volume, runway closures, and equipment outages.

There are four main causes of airport congestion: bad weather, such as a snowstorm, may ground planes; too many planes may be scheduled to arrive or depart within a short period; runways may be closed; and equipment may be out of service.

Sometimes a dash is used to introduce a list as well, but how you should choose between a dash and a comma is a matter of debate. Often dashes are used by authors to intrude into a sentence and to provide some additional information. Commas are used in a variety of situations. It is best to check a style manual for the many uses. For our purposes here, however, we will say only that commas are used with many of the subordinators.

Although weather is a major cause of airport delays, excess traffic volume is also a major factor.

Importantly, style manuals also have guidelines for semicolon uses. Refer to these for more information on semicolon use in your field.

TASK EIGHTEEN

Edit this passage by adding semicolons or commas where necessary.

Although most major companies provide their employees with email accounts as well as internet access many of these companies are concerned about potential abuse and monitor their employees' use of these media. In fact, more than 75% of all major corporations report that they monitor their employees' use of email and internet access either by spot-checking or constant surveillance. Businesses have many reasons for monitoring email and internet use for example they may be concerned about protecting sensitive company information they may be worried about lawsuits arising from sexual harassment because of mass mailing of offensive jokes they may also want to identify employees who are surfing the internet rather than working. In other words they are concerned about cyberslacking.

TASK NINETEEN

Supply linking words or phrases to enhance the flow of one of these passages. Look carefully at the punctuation to help you make an appropriate choice. Once you have made your choices, consider why the linking words are important and why an old-to-new pattern of information flow alone might not be adequate.

- A. It has long been documented that individuals in an organization may voluntarily carry out tasks that are not part of their regular job duties. _____, individuals may go above and beyond the call of duty to help coworkers, prevent problems, or volunteer to stay late when not expected to do so. This behavior is intended to help others in the organization or the organization itself and is often referred to as organizational citizenship behavior (OCB).

_____ it is recognized that OCB is important for an organization to effectively function, there is debate among researchers as to how OCB can be encouraged and rewarded. This debate is further complicated when considering the role of OCB in multinational corporations pursuing global diversity. Most OCB research has focused on Western cultures; _____, whether these research findings can be extended to other cultures is not clear, _____ suggesting a need to investigate OCB as it exists in other cultures, particularly those described as “collectivist.”

- B. Shape Memory Alloys (SMA) are a group of metallic materials that can return to some previously defined shape or size when subjected to the appropriate temperature. When some SMA are cold they can be deformed at a low temperature; _____, when the material is heated above this temperature it undergoes a change in crystal structure, _____ causing it to return to its original shape. Some materials exhibit shape memory only when heated; others can undergo a shape change both when heated and when cooled. _____ many alloys are known to have the ability to “remember” their shape, only some may actually find widespread commercial use. Of particular interest are those that can recover substantial amounts of strain or that generate significant force upon changing shape. _____, one common nickel and titanium SMA, Nitinol, has this ability and is being used in surgical implants, clamps, miniature valves and switches, and other devices.



***This* and Summary Phrases**

As indicated earlier, *this/these* + a noun can be used to establish a good old-to-new flow of information. Consider the following sentences.

Writing instructors know that students need to understand the differences between formal and informal language. *This understanding* can help students make strategic choices in their writing.

What does *this understanding* refer to? Consider the following sentences.

In recent years, the number of students applying to PhD programs has increased steadily, while the number of places available has remained fairly constant. *This situation* has resulted in intense competition for admission.

What does *this situation* refer to? What is the effect of using *this* instead of *that*?

The phrases in italics contain a summary noun or word that refers back to the idea in the previous sentence. They summarize what has already been said and pick up where the previous sentence has ended. You may have noticed in your academic reading that *this* is not always followed by a noun—that is, *this* is unsupported or unattended. Keep in mind, however, that if there is a possibility your reader will not understand what *this* is referring to, your best strategy is to follow *this* with a noun so that your meaning is clear.

TASK TWENTY

Choose a noun to complete the second sentence of each set of sentences. More than one answer may be possible.

1. According to a recent survey, 26% of all American adults, down from 38% 30 years ago, now smoke. This _____ can be partly attributed to the mounting evidence linking smoking and fatal diseases, such as cancer.
 - a. decline
 - b. decrease
 - c. drop
 - d. improvement
 - e. reduction

Can you think of any other nouns that could complete the sentence?

2. Early in September each year, the population of Ann Arbor, Michigan, suddenly increases by about 25,000 as students arrive for the new academic year. This _____ changes the character of the town in a number of ways.
- a. increase b. influx c. invasion d. jump e. rise

Can you think of any other nouns that could complete the sentence?

3. Nowadays, laptop computers are lighter, more powerful, and easier to use than they were five years ago. These _____ have led to an increase in the sales of these machines.
- a. advances b. changes c. developments d. improvements

Can you think of any other nouns that could complete the sentence?

As the task indicates, the noun that you choose to follow *this/these* can provide a strong interpretive signal that reveals your stance (see Unit Six). By revealing your stance you communicate not only what you know, but also what you think.

TASK TWENTY-ONE

Choose a summary word from the list to complete each sentence. Can you think of other possible summary words in addition to those on the list?

difficulty	estimation	problem	situation
disruption	finding	process	view

1. The traditional economic and consumer behavior models assume a rational, thoughtful consumer who gathers information about a good and then carefully makes a purchase. This _____ has recently been challenged, particularly because of the growing number of consumer choices.
 2. Our pilot study has shown that wind turbines used to generate electricity can pose a threat to flying birds. This _____ suggests a need for further research on improving the safety of these mechanisms.
 3. In soccer, goalkeepers routinely wear gloves that may restrict heat loss from the hands and cause discomfort. In order to alleviate this _____, special materials, called phase control materials (PCMs), have been incorporated into gloves to reduce the amount of heat inside the glove, thus maintaining a comfortable temperature.
 4. Normal average human skin temperature is 37°C. At any lower environmental temperature, heat will be lost from the skin to the environment as the body attempts to heat up the air in direct contact with the body. This _____ is known as conduction.
 5. Until adjustment of the body clock has occurred, individuals suffering from “jet lag” feel tired during the new daytime, yet are unable to sleep properly during the new night. For athletes in particular this _____ of sleep can affect mood and powers of concentration and might result in poorer training performances and competition results (Reilly et al., 1997b).
 6. Until recently, the support needs of frail older people in Sweden have been met primarily by the state, with there being little expectation that the family would provide care. This _____ is now changing as increasing emphasis is being placed on the role of the family.
-