Unit 1

Fundamentals: A Reminder

The Essay and Its Parts

Most students using *Building Academic Vocabulary (BAV)* have already studied the basics of English essay structure. They do not need to hear much more about thesis statements, topic sentences, or the (not-found-in-nature) five-paragraph essay. They probably still need to practice producing them, and their writing assignments in *BAV* will give them that opportunity. To succeed in these assignments, some students may need reminders of (but not elaborate lessons about) the essay-structure principles they have already learned.

This chapter offers such a review of a few essay-structure basics. This short recap does not require a lot of instructional time. Most of it could be delivered in a single class period or, better yet, in conferences with any students who seem to need it.

Key Terms

- title
- introduction
- thesis statement
- body paragraphs
- topic sentences
- support sentences
- conclusion
- cohesive devices

Explanations of Some Key Terms

Thesis Statement

- Tells what the piece of writing is about (overall).
- Usually—but not always—comes at or near the end of the introduction. If the introduction is more than one paragraph long, the thesis statement might not be near the end of the first paragraph.
- Sometimes the thesis statement is made up of two or three sentences, not just one.
- Some pieces of writing have no clear thesis statement.

Topic Sentence

- States what a paragraph is about.
- Often—but not always—comes near the beginning of a paragraph. Notice in the passage "Fear of Spiders" (on pages 3–5) that it is not unusual for a topic sentence to be the second or third sentence of a paragraph.
- If a paragraph is meant to argue against a commonly held belief, the topic sentence probably comes in the middle of the paragraph, after a statement of the belief the writer considers untrue.
- Sometimes the topic is stated in more than one sentence.
- Some paragraphs have no clear topic sentence.

Supporting Ideas

- Show why the main idea of an essay or paragraph is true.
- Some common kinds of support include:
  - statistics
  - verifiable events or conditions
  - comments by respected, knowledgeable persons
  - logical reasons
  - personal anecdotes (considered weak in academic writing)

Support Sentences

These give a further explanation or examples to clarify a supporting detail.

A Sample Essay, with Key Parts Labeled

Essay	Parts
Fear of Spiders	*Title*
A strong fear of spiders is extremely common among humans. This fear, although it extends even to harmless species, is not entirely unrealistic (unless it becomes so strong that it becomes *arachnophobia*—an irrational fear that prevents someone from living a normal life).	*Introduction*
Venomous types of spider can be very dangerous indeed.	*Thesis Statement*
A human is far too large to be a practical source of food for any arachnid, so what purpose does a spider bite serve?	*First body paragraph*
A spider probably bites humans only if it feels threatened somehow.	*Topic Sentence 1 (2nd sentence of this paragraph)*
In a majority of spider-bite cases, a person does not even see the spider before it bites (and perhaps not even then),	*Supporting Detail 1.1*
but the spider does not know that. A sleeping person, for example, may frighten a spider just by rolling near it.	*Support Sentence (example) for Detail 1.1*
In a few other cases, a person notices the spider in its web (or wherever else it may live) and approaches just to have a closer look. The spider then moves, faster than the person imagined possible, toward a hand or a leg and delivers a defensive bite to protect its lair.	*Supporting Detail 1.2*
The human perspective is that the spider is the aggressor, but the spider probably sees things differently.	*Support Sentence for Detail 1.2*
Spider venom is a destroyer of living tissue. When a spider bites an insect (or another spider) it intends to eat,	*Topic Sentence 2*
the venom first immobilizes the victim and then liquefies its solid organs. The spider then uses a tube-like mouth	*Supporting Detail 2.1*

structure to suck up the nutrient-rich goo. When injected into a human, the venom has a similar effect, only slower and not as thorough. Parts of the skin and some muscle may be deadened by its chemical action. The strongest venoms are powerful enough to reach and kill nerve cells, most tragically those in the spinal cord and brain.

Supporting Detail 2.2

Supporting Sentences for Detail 2.2

The strength of the venom depends on the species. The most poisonous in the world is Australia's funnel-web spider, whose venom disables a person within about 20 minutes. Almost every victim of a funnel-web bite dies within 24 hours. In the United States, the black widow and the brown recluse are the main threat to humans, mostly because these types of spider often live in or near houses and humans encounter them more frequently than they do other spiders. Both can cause significant pain and some tissue damage in humans, but their bites are usually fatal only to very weak victims or those with allergies to the venom.

Topic Sentence 3

Supporting Detail 3.1

Supporting Sentence for Detail 3.1

Supporting Detail 3.2

Supporting Sentence for Detail 3.2

The most effective treatment for spider bites is an injection of medicine that neutralizes venom, but this only works when the victim can identify the kind of spider that delivered the bite. This is surprisingly rare. Some bites are not noticed until hours afterward, by which time the spider is long gone. Even when someone notices a bite immediately, the spider often hurries away too fast to be seen clearly, if at all. In only a few cases does the victim catch or kill the spider so its species can be determined.

Lead-in to Topic Sentence

Topic Sentence 4 (3rd sentence of this paragraph)

Supporting Detail 4.1

Supporting Detail 4.2

Supporting Detail 4.3

The uncertainty over which spider has caused a certain bite is so great that some species cannot be definitively said to be dangerously venomous. The hobo spider, for instance, may or may not be highly venomous. Its original home range is in Europe, where no victim of its bite is known to have suffered serious harm. In North America, the spider established itself in the Pacific Northwest some time in the first half of the 20th century.

Topic Sentence 5

Supporting Detail 5.1

Supporting Sentences for Detail 5.1

Several near-fatal spider bites—and a few deaths—in this region have been blamed on the hobo. Scientific tests of its venom, however, have been inconsistent. Some have discovered truly harmful agents in it, and some have not. The spider's history in Europe may suggest harmlessness or may just suggest that the European hobo bites fewer humans. Some have suggested that the harmful North American bites are really from a brown recluse. The problem with this theory is that brown recluses are not known to live so far north.

Supporting Sentences for Detail 5.1 (cont.)

Aside from E.B. White's *Charlotte's Web*, very few tales in any culture have good things to say about spiders. On the contrary, cultural traditions are likely to reinforce any natural wariness about spiders. The chilly relationship between humans and arachnids is also reinforced by almost any contact between the two. A human-spider encounter usually brings pain and suffering to at least one of them.

Conclusion

Some Advice about Essay Structure

1. The labels for the passage "Fear of Spiders" show a common arrangement of essay parts. This is not the only possible way to build a piece of academic writing, but it is very clear and easy.

2. Most paragraphs should be relatively short—five to eight sentences. If you write a paragraph much longer than eight sentences, consider splitting the long paragraph into two smaller ones.

3. Certain "build-up sentences" in the introduction are supposed to do two things:

   a. lead readers' thoughts toward the main idea of the essay

   b. encourage readers to keep reading the essay

Therefore, your introduction should be somewhat entertaining, but it should be very closely related to your thesis.

WARNING: Many students make a mistake by starting their introductions too generally ("In today's world, we have many problems. . . .").

WARNING: Many students write introductions that are too long in relation to the rest of the essay—often constituting as much as 25 percent of the entire essay. The introduction should not be so long. An easy rule is to make sure your introduction is no longer than your longest body paragraph.

ADVICE: Some students find it easier to leave some empty space for the introduction until after they have written their support paragraphs. They write the body of the essay first, and then they find a nice way to lead into it.

4. Each body paragraph in your essay should have a clear reltionship to your thesis, to paragraphs just before and just after it, and among its sentences. The language tools that tie ideas together are called cohesive devices. A few of the cohesive devices in the passage "Fear of Spiders" are:

   a. *this fear* (introductory paragraph; connects Sentences 1 and 2)
   b. *any arachnid* (Body Paragraph 1; ties in with *spider* and *arachnophobia* in Paragraph 1)
   c. *for example* (Body Paragraph 1; connects to previous sentence)
   d. Every mention of *spider venom* throughout the passage ties in with the thesis statement at the end of the introductory paragraph.

5. The concluding paragraph is the least important part of your essay. It should be merely a polite way of saying goodbye to your reader. Conclusions should be short and should contain no new information. In an essay of fewer than 1,000 words, the conclusion should not summarize or restate the main points of the essay. The reader almost certainly remembers the main points of such a short essay without a summary. Better techniques are: (1) looking to the future, (2) drawing an implication from your earlier points, and (3) making a clever observation based on your earlier points.

Exercise: Unscrambling Essay Parts

To the teacher:

1. Divide the class into groups of three or four students.
2. For each group, cut up a copy of the reading (at marked cut points) on pages 9–10. Put each set of slips into an envelope.
3. Give each group an envelope, a glue stick, and three sheets of colored paper onto which they can stick the parts. Glue-stick adhesive does not dry very fast, so the students can change their minds and try different arrangements.
4. Each group meets with another group. The groups compare their arrangements. Are there any points of disagreement?
5. Either give each student a copy of the whole reading (which will require extra photocopying) or show the class a whole reading on an overhead transparency. Each group compares its arrangement with the original.
6. As an optional homework follow-on, each student can identify essay parts in this reading. (See the worksheet following the reading on page 11.)

Hormone Production

Endocrine disorders (malfunctions of the human hormone-producing mechanisms) can have serious consequences. Hormones, like insulin or human growth hormone, are crucial physical messengers, regulating and coordinating such functions as digestion and the balance of serum minerals. Severe shortages of hormones can mean a virtual shutdown of essential bodily processes.

Endocrine disorders are routinely treated by administering hormones obtained from sources outside the body of the person suffering the disorder. The supply of such chemicals in nature, however, is far short of that needed in modern medicine. Since hormones are proteins, they are perfect candidates for production by genetically engineered bacteria. This production represents one of the most useful and widespread applications of rDNA (recombinant DNA) technology.

More than 5 million people worldwide take the hormone *insulin* each day to control some form of diabetes. Most of the insulin sold comes from cow or pig pancreases collected at abattoirs as a byproduct of meat production. While insulin from these sources is generally safe, it has slight structural differences from the human form. Rather than slipping comfortably past the immune defenses of the recipient, these insulin molecules are easily recognized as outsiders. Consequently, a few people taking bovine or porcine insulin develop allergic reactions as their immune systems reject the foreign intrusion. This problem is avoided by substituting human insulin, which, to be available in significant quantities, must be manufactured by genetically altered bacteria.

Insulin was the first therapeutic rDNA product approved by the FDA for sale in the United States. It went on the market in 1982 under the brand name Humulin®. The development work had been done by the pioneering biotech firm Genentech; Eli Lilly and Company produced and marketed Humulin®.

The biotechnology used in making insulin is more complicated that than used in making human growth hormone. The insulin molecule is made up of two polypeptide chains (linked strings of amino acids), which join to make the active form of insulin. In the

production of genetically engineered insulin, the DNA that codes for the A chain is introduced into one batch of *E. coli* bacteria and the DNA for the B chain into a different one. The bacterial cells are induced to make the two chains, which are then collected, mixed, and chemically treated to make them link. The resulting insulin molecules are identical to those secreted by the human pancreas.

Human growth hormone (hGH) was another early target of rDNA approaches to hormone deficiency. HGH controls the growth of bones and regulates weight gain. In some children, the pituitary gland fails to produce enough hGH for normal development, and this is evidenced by markedly short stature (perhaps only 60%–70% of normal height for a given age) and other growth deficiencies. The condition can be ameliorated, but only if hormone supplementation takes place during the growth years of childhood. Beyond this critical period, many bones (such as the femur) lose their ability to elongate.

Early in the development of hGH therapy, the only sources of the hormone were the pituitary glands of human cadavers. Suppliers and marketers worried that drawing a chemical from the glands of the dead might eventually create a public relations problem. But a more serious problem was that the source was not prolific enough. First of all, the number of cadavers from which the pituitary gland could be harvested was very limited and not easily increased (within the bounds of the law). Secondly, each cadaver yielded a very small amount of the hormone—only about 4 mg, whereas one week's treatment for an individual deficient in hGH requires about 7 mg. No successful animal sources were found. Clearly, new sources were needed.

The supply of human growth hormone is maintained by applying rDNA techniques and achieving high-volume synthesis. A gene for hGH production is spliced into *E. coli*, which are cultured and exploited in very large amounts. A 500-liter tank of bacterial culture can produce as much hGH as could have been derived from 35,000 cadavers. Growth hormone produced by this technique was approved for human use in 1985 and is now commonplace.

Source: Adapted from Cynthia S. Gross, *The New Biotechnology: Putting Microbes to Work* (Minneapolis: Lerner, 1988).

Worksheet 1

In the reading "Hormone Production," find and label as many of the following as you can. You can write your labels (and do any highlighting) on your group's pasted-together copy of the reading.

Introduction Paragraph(s) (Label it/them.)

Thesis Statement (Draw a circle around it.)

Topic Sentences (Draw a box around each one.)

Supporting Ideas Related to Each Topic Sentence (Underline them.)

Concluding Paragraph (Label it.)

Cohesive Devices (Highlight them with a colored marker.)

Exercise: Choosing the Best Thesis Statement

Review page 21 in *Building Academic Vocabulary*, Writing Project #2. Here are some sentences people might try to use as a thesis statement for an essay about this question. Which ones are the best, and why?

1. According to *Webster's Ninth New Collegiate Dictionary*, a family is "a group of individuals living under one roof and usually under one head."
2. Throughout the world, there are many different kinds of families, so it is impossible to say exactly what a family is.
3. Everyone has a family.
4. Society is most stable if we conceive of the family as a married couple and their children, if any.
5. In order to meet the needs of the sick, the poor, and other unfortunates, it is best to think of the family as an extended group involving three or four generations—from great-grandparents to young children.
6. The concept of the family is very useful for making us responsible and loving people.
7. I have succeeded only because I got constant support from my family.

Exercise: Topic Sentences

Following Paragraphs 1–3 are four sentences. Circle the letter of the best sentence to fill in the blank in each paragraph. In Paragraphs 4 and 5 on pages 16 and 17, fill in the blanks with an effective topic clause (4) or sentence in your own words.

1. _____

   _____.

   One clear element in it is that the first patent for what we now call a laser was issued (in 1960) to Charles Townes and Arthur Schawlow, who based their patent application on work they had done at Bell Laboratories. Beyond that, things get murkier. Townes and Schawlow had published about the principles of the technology as early as 1958. Gordon Gould claimed to have come up with the idea of a laser (and to have written notes about it) as early as 1957, but he didn't file for a patent until 1959. In any case, Gould gets credit for coining the word laser (from "light amplification by stimulated emission of radiation"), and the U.S. Patent Office eventually granted him a laser-related patent in the late 1970s. A third important character in the story is Theodore Maiman, who, in 1960, built a working optical laser (one involving visible light)—probably the first functional laser.

   Which of the following would be the best topic sentence for this paragraph? Be prepared to explain why.

   a. The history of the laser shows clearly who should get credit for the invention.

   b. Early ideas for the laser were very different from ideas that came later.

   c. The invention of the laser makes for a somewhat unclear chapter in technological history.

   d. No invention has inspired more lawsuits than the laser.

2. _____

_____.

If two cultures share a distinctive burial style or fishing method, the members of one culture are assumed to have learned it by meeting and observing the members of the other. Diffusionists run the gamut from the extreme to the mild. The former, such as G. Elliot Smith, posit very few centers from which cultural features radiate. In Smith's characterization, there was only one such center—ancient Egypt—for all advanced cultural achievements, such as writing. Less extreme diffusionists include well-known anthropologists of the early to middle 20th century such as Franz Boas and R. H. Lowie. Their approach, while emphasizing the importance of contact among cultures, allowed for individual invention as well. In other words, if two cultures shared a burial style or a peculiar fishing method, one might have borrowed it from the other or each might have come up with the idea on its own. Nor did this mild viewpoint restrict the center of diffusion to one place. Several centers might have functioned simultaneously to spread cultural features, much as a handful of pebbles thrown into a pond will create several ripple patterns radiating from several centers.

Which of the following would be the best topic sentence for this paragraph? Be prepared to explain why.

a. Since the 19th century, cultural diffusionists have explained shared features among various cultures in terms of a process of contact and borrowing.

b. Since the 19th century, cultural diffusionists have been excluded from the mainstream of anthropology.

c. Since the 19th century, cultural diffusionists have insisted that all cultural achievements originated in one place.

d. Since the 19th century, cultural diffusionists have tried very hard to spread the best aspects of civilization throughout the world.

3. _____

_____.

Superconductivity depends on critical points—of temperature, current density, and magnetic field strength—where sudden changes occur. This became clear long ago, when Heike Kamerlingh Onnes (Nobel laureate in physics, 1913) first achieved virtually zero electrical resistance in a mercury wire cooled to 4.2 K and named the state of the metal "superconductivity." As far as we know, not every material can become superconductive, but any material that can do so has its own Critical Temperature (T_c). For pure metals, this is typically very low, under 20 K. For many newly developed ceramics, T_c is much higher—near or even above 100 K. Critical Current Density (J_c) refers to the fact that, at a given temperature, a material can carry only so much electrical current and stay superconductive. If the current density exceeds J_c the material will suddenly lose its near-zero resistance and flip to its normal resistive state. Most complex of all is the third factor, Critical Magnetic Field (H_c), which refers to the strength of the magnetic field around the superconductor. Superconductors have a unique ability to prevent an external magnetic field from penetrating the superconductive material—up to H_c. In one kind, called type I or "soft" superconductors. The material reverts to its normal resistive state if the external magnetic field reaches or surpasses H_c.

What would be the best topic sentence for this paragraph? Be prepared to say why.

a. In considering superconductivity, our normal sense of physical change as gradual has to be set aside. Superconductivity depends on critical points—of temperature, current density, and magnetic field strength—where sudden changes occur.

b. Advances in superconductivity research have led to the development of new materials that have reshaped modern industry. It represents the vital role played by materials science in modern society.

c. Superconductivity requires certain conditions of temperature, current density, and magnetic field strength. These create important changes in the arrangement of molecules within a material.

d. Maintaining a superconductive state in a given material is a difficult and expensive process. This alone justifies the high level of grant funding for research in this area.

4. By 1960, when Stanley Kramer's *Inherit the Wind* was released, the issues central to the Scopes "Monkey Trial" of 1925 (which the film fictionally portrayed) had become slightly quaint, at least for mainstream U.S. society. The general outlook for real science at school was somewhat brighter in those days. Kramer could get away with sympathetically portraying evolutionism as progressive and with lampooning Bible-toting creationists. It's an open question whether a film with that point of view—and with such unflattering characterizations of creationists—could long endure in today's film market. It should amaze us that the basic issue is still with us: Should public schools teach evolution as scientific fact or should religion-based views be presented as equally possible? We have been debating this for at least eight decades. By now, evolution should have killed off its rivals, and schoolkids throughout the land should be examining the fossil evidence. But creationists, many of them disingenuously traveling under the name of "intelligent-design advocates," are perhaps more powerful in the United States than ever before. Their influence has reached into the White House and Congress. Many avowed creationists head federal agencies. If an updated *Inherit the Wind* were released today, it might still be nominated for four Academy Awards as the original was in 1960, but _____ _____.

   In this paragraph, the topic sentence comes at the end. Complete the last sentence. Write your answer on the lines.

5. _____ _____.

   Much attention has focused on a period from 1645 to 1715, known as the Maunder minimum (named for E. W. Maunder, a late 19th-century astronomer), when sunspot activity was virtually nil. For some time, researchers wondered whether this period of marked inactivity might simply have been a period of poor record-keeping. That issue seems settled, and most historical astronomers accept that reliable observers were watching the sun regularly and that a remarkable paucity of sunspots truly did characterize this long period. The years of the Maunder minimum correspond to tree-ring evidence of higher-than-normal concentrations of carbon 14, which would be consistent

with a period of very little solar flaring. Evidence from the late 17th century also reveals a period of colder-than-average global temperatures. This has thrust the issue of solar variability into one of the most intense debates of the 21st century, the contest over the extent and causes of global warming.

Compose a good topic sentence for the paragraph. Write your answer on the lines.

Writing Processes

Key Terms

- topic
- approach
- planning
- narrowing
- writing
- revising
- cutting
- pasting

Explanation of Some Key Terms

Topic—the subject area that a statement, paragraph, or entire piece of writing is about.

Narrowing—finding a more focused, easier-to-handle aspect of a topic. Assignments often state topics very generally to allow the students to choose an interesting sub-topic. Teachers are also interested in seeing how well a student can adjust the topic to the length of the essay and to the interests of potential readers.

Revising—in U.S. English, the process of making changes to a piece of writing after it has been completed.

Cutting and Pasting—functions in writing while using a computer. Cutting involves removing part of a passage. Pasting involves inserting them into another part. These functions are easy to perform with a computer, but they have led to errors that are not common in handwritten or typed pieces of writing. A cut-and-paste error results in a sequence of sentences that don't fit together well.

Writing Processes and a Lexis-Based Course

Despite frequent reference to "the writing process" by writing teachers, it is worth remembering that there is not just one process used by fluent writers of English. Anyone who spends considerable time among professional writers can attest that different writers follow different processes. That is why this guide uses the term *writing processes.*

Since process-based writing courses became popular in the 1970s, the writing world has changed a great deal, largely because of computer-related capabilities now available to most university students. Consequently, much of what was once said about nearly every stage in any author's writing process now sounds quaint. The planning stage has been transformed by sophisticated Internet search engines. The writing and revising stages now blend, separate, and blend again, as students freely cut, paste, and respond to grammar-check and spell-check feedback from their word-processing software. A ramped-up kind of recursiveness has been introduced into the writing stage.

Whereas many writing courses are called "process-oriented," most of them are not really. I have yet to meet a writing teacher who was dismissive of writing products. If pressed, most teachers would admit that a student's adherence to "the process" counts for little if he or she consistently turns in

dismal products. This is only fair. Sensible teachers strike a reasonable balance between process and product. The process is important because it encourages independence and a portability of skills. The product is important because writers in the real world are almost always judged by what they produce, not (except in cases of plagiarism) by how they produce it.

Bearing in mind the multi-various nature of writing processes, it is still worth giving an outline of the stages most commonly recognized as fitting, somehow and in some sequence, into whatever process a writer goes through:

1. Pre-writing
    a. choosing a topic
    b. narrowing the topic
    c. planning
2. Writing
    a. choosing and verifying content
    b. organizing content
    c. choosing effective lexical items and syntactic arrangements
3. Revising
    a. getting feedback from readers on one or two early drafts
    b. changing the content and organization to reflect the most perceptive points in the feedback
    c. adjusting lexis and syntax in light of the feedback and changes in content
    d. producing a final draft

A few elements of this outline are worth emphasizing. The most important in a classroom is the feedback part of the revising stage. Peer editing (getting feedback from several other students) should occur after every early draft of the major papers in a lexis-based course. This is the main reason for writers to meet with you as a class instead of just sending things to you by e-mail. Nor-

mally, peer editing is directed toward issues of content and organization, since the students are assumed to lack expertise in issues of grammar and vocabulary. In a lexis-based course, however, it useful to allow comments about lexis, especially about the use of key words in *BAV*. Writers should adjust their lexis to use as many key words as possible and to use them correctly.