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1. Definition and purposes of process analysis
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Objectives:

After studying this Unit, a student
- knows what process paragraphs and their purposes are.
- can make an outline of process paragraphs.
- can write effective topic sentences for process analysis paragraphs.
- knows how to make process paragraphs coherent.
- can do the exercises effectively.
1. Definition and purposes of process analysis

Another analytical writing technique is process analysis in which a series of actions, changes, events, steps, or operations that bring about or lead to a particular expected end or result is shown or explained. According to its purpose there are two kinds of process analysis in paragraph or essay writing: instructive process analysis and explanatory process analysis.

The instructive paragraph is a paragraph that instructs or teaches the reader how to do something. In writing an instructive paragraph or essay, you will show how to do or make something step-by-step so clearly that the reader can follow those steps until coming to the expected end. Consider the following paragraph in which the writer instructs the reader how to write an effective paragraph.

1. To write an effective paragraph in English, a student should follow certain steps. 2. First, he should choose a topic that is narrow enough to be covered effectively in a paragraph. 3. Second, he should make a list, mentally or on paper, of those points or aspects which may be likely to be included in the paragraph. 4. Then, he should organize this list into an outline. 5. At this step, those items that are not relevant are eliminated. 6. Next, he should write a topic sentence in such a way that it covers all the points given in the outline and limits
the elements that will be discussed in the paragraph.

Finally, he should complete the paragraph with support sentences, major and minor if they are necessary, which prove or explain that topic sentence clearly (1).

In the above paragraph, the writer instructs the reader how to write a paragraph step-by-step, beginning from the first step in sentence 2 until the final step in sentence 7. Notice also that the sentences in the paragraph are arranged in chronological order, using transition markers that show sequence—First, Second, Then, At this step, Next and Finally—throughout the paragraph.

The explanatory process paragraph is a paragraph that tells the reader how something works, how something happens or happened or how something is or was done as in the following paragraph.

1 According to Piaget, a Swiss psychologist, children go through various stages in their cognitive development. 2 The first stage is called the sensorimotor period (0 to 2 years). 3 During this time the children's behavior is primarily motor. 4 The second stage is that of preoperational thought (2 to 7 years). 5 During this stage the child is

(1) Adapted from Johnston, op. cit., p. 29.
developing language and gaining a number of concepts.

* The next stage is the period of concrete operation (7 to 11 years). During this period the child is acquiring the ability to apply logic to concrete matters. However, it is not until the last stage, called the formal stage (11+ onward) that the child is able to do high level abstract reasoning. (1)

The writer of the above paragraph explains how children develop their ability to learn. Firstly, he declares the point of explanation "go through various stages" in sentence 1 which is the topic sentence. Then he defines different stages in sentences 2, 4, 6 and 8 which are major support sentences, giving additional information in sentences 3, 5 and 7 which are minor support sentences. Thus, the reader can easily understand the process of learning development of children.

2. Organization of process analysis paragraphs

Process analysis deals with the step-by-step process of instructing someone how to do something or explaining how to do a thing or how a thing takes place. The procedure is broken down into component steps and these steps will be arranged in chronological order or order of sequence. In this kind of paragraph and essay, it is especially important to outline a chronological pattern, including all steps until the procedure is finished. The pattern of this kind of paragraph or essay, whose purpose is to instruct, would be like "X is done by Y", or "to make X one should follow Y." In paragraphs or essays whose purpose is to explain how a thing occurs or develops, the pattern would be like "X goes (proceeds, takes place, etc.) through (by, with etc.) Y". It is also important that the second person "you" or the third person, "he, she, one, a student" be used suitably in this kind of writing. Study the following paragraph.

In writing a precis, a student should follow the following five steps. First, he should read slowly the entire selection he intends to summarize, concentrating his attention on getting at the author's central idea. He then should read the selection to pick out the essential points and if the selection is long he should jot down the points to be made in successive paragraphs. Either with or without reference to the notes he has jotted down,
he should next construct sentences expressing different points concisely but accurately, and group these sentences into paragraphs representing sections or large divisions of the whole. He, moreover, should read the selection a third time, comparing it with the summary he has prepared, and make sure that nothing important has been omitted, nothing unimportant included, and nothing at all unclearly expressed. Finally he should revise or rewrite the precis to be sure that his summary is complete and effective. (1)

The purpose of the above paragraph is to instruct how to write a precis or summary. The writer introduces the subject "To write a precis" and defines the process of writing as "the following five steps" in the first sentence—the topic sentence. The writer, then explains each step clearly beginning from the first step in sentence 2 chronologically to the second step in sentence 3 until the last step in sentence 6, all of which are major support sentences.

The outline of the above paragraph can be drawn in this way:

(1) Adapted from D'Angelo, op.cit., pp. 338-339.
X: Subject: How to write a precis

step 1: Read the selection slowly
   1.1. get the central idea
   1.2. get the important support facts

step 2: Read the selection a second time
   2.1. pick out the essential points
   2.2. jot down the points

step 3: Construct sentences
   3.1. express different points in the sentences
   3.2. group the sentences into paragraphs

step 4: Reread the selection a third time
   4.1. make sure not to omit important points
   4.2. make sure not to include unimportant points
   4.3. make sure not to express any point unclearly.

step 5: Revise or rewrite

Again, study the following paragraph whose purpose is to explain how a thing works or proceeds.

"The respiratory system works in the following way. First, the diaphragm moves down, and the chest muscles lift the ribs. When this happens, air enters the nasal cavity through the nose. It passes into the trachea and moves to the lungs through the bronchial tubes. The air then flows into the air"
sacs. 6 This is where the red blood cells exchange carbon dioxide for oxygen. 7 The air that contains carbon dioxide is exhaled through the nose when the diaphragm moves up. (1)

In the above paragraph, the writer presents the subject "the respiratory system" and defines the way the respiratory system works "in the following way" in sentence 1--the topic sentence. The writer then explains the way in which the respiratory system works step-by-step, beginning from the first step in sentence 2 and moving toward the final step in sentence 7. All these sentences are major support sentences.

The outline of the above paragraph can be made in this way.

X: subject: Respiratory system.

   step 1: 1.1. The diaphragm moves down
      1.2. The chest muscles lift the ribs
   step 2: 2.1. The air enters the nasal cavity
   step 3: 3.1. The air passes into the trachea
      3.2. The air moves to the lungs
   step 4: 4.1. The air flows into the air sacs
   step 5: 5.1. The red blood cells exchange carbon dioxide for oxygen
   step 6: 6.1. The diaphragm moves up
      6.2. The air containing carbon dioxide is exhaled

(1) Adapted from Huizenga, op.cit., p.243.
3. Language useful for topic sentences of process analysis paragraphs

Process analysis is concerned with a "How" topic. So process analysis paragraphs or essays involve answering a "How" question such as "How did it happen?" "How does it work?" or "How do you make it or do it"? The answers to such questions become the main idea of a paragraph or an essay; that is, the topic sentence, based on such answers, should be written in such a way that it introduces a subject and the procedure by which the subject happens, works or is done. Though there are no particular terms to be used for writing a topic sentence of process paragraphs, the topic sentence can be written in the following manners, depending on the subject to be explained or instructed.

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<td>do</td>
<td>make</td>
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<tr>
<td>read</td>
<td>one should follow</td>
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<tr>
<td>To</td>
<td>compose x</td>
<td>you must</td>
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<td></td>
<td>write</td>
<td>etc.</td>
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<td>get</td>
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<tr>
<td>etc.</td>
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<td>OR</td>
<td>can be done</td>
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<tr>
<td></td>
<td>happens</td>
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<td>X</td>
<td>occurs</td>
<td>in (by) Y.</td>
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<td></td>
<td>works</td>
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<td></td>
<td>etc.</td>
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</table>
Remember that in your topic sentence you must mention:
a. what you are going to explain (subject)
b. the procedures or steps by which the subject proceeds or is done or explained.

Study the following examples.

Example 1. A volcano's eruption takes place in the following way.

Example 2. To write an effective paragraph, a student should follow certain steps.

Example 3. A precis can be written in the following ways.

Note: The second person (you) and the third person (one, he, she, a student) may be used, as in example 2. And note also that the passive form of the verb is used in example 3.

4. Coherence in process analysis paragraphs

As in division and classification paragraphs, the way to achieve coherence in process analysis paragraphs is to arrange all details in a clear order: that is, chronological order. But you must be aware that in process analysis you must arrange your support details from the beginning step moving forward to the final step. The transition markers indicating numerical order.
such as First, Second, third, Next, Finally, etc., may be used to make paragraphs or essays unified and coherent.

To sum up

1. Process analysis is concerned with instructing how to do something and explaining how something takes place.
2. This kind of writing aims at explaining some process or instructing how to do something in order to convince or persuade the reader.
3. The organization can be outlined in such a way that "To do X one (you, he) should follow Y." Or "X can be done by Y".
4. Coherence can be achieved by arranging support details in chronological order beginning from the first step and moving to the final step until the procedure is finished.
5. Exercises about process analysis paragraphs

Exercise 1.

Directions: Each of the following topics is suitable for process analysis paragraph writing. Write effective topic sentences with these topics in the spaces provided. The first one is done as an example.

Topic: Fish's breathing system

Topic sentence: Fish breathe in water in the following way.

Topic: How to spend leisure time usefully

Topic sentence: ____________________________

____________________________

Topic: Application procedures for admission to RU

Topic sentence: ____________________________

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Topic: How to stop smoking

Topic sentence: ____________________________

____________________________
Topic: How to choose a good friend.

Exercise 2.

Directions: The following sentences are effective topic sentences for process analysis paragraphs. Each is accompanied by additional details. Write major support sentences for each of them in the spaces provided by using the additional details given. The first one is done as an example.

Topic sentence: To write an essay, you should follow the following steps.

1. choose a suitable topic
2. write an introductory paragraph with the thesis statement
3. write two or more support paragraphs
4. write a conclusion paragraph
1. The first step is to choose a topic you can write about.

2. Second, you should write a short introductory paragraph including the theses or main idea statement.

3. The third step is to write two or more support paragraphs to explain the main idea you have stated in the introductory paragraph.

4. Finally, you should write a brief conclusion paragraph indicating the final statement.

Topic sentence: To be a good listener, one should follow three practical rules.

Additional details:

1. develop a democratic heart
2. analyze what you have heard
3. raise questions with good intentions

Major support sentences:

1. 
2. 
3. 

Topic: The AIDS virus is spread through contact with the body fluids of an infected person in three ways.

1. sex
2. blood transfusion
3. infected needles

Major support sentences:
1. 
2. 
3. 

Exercise 3.

Directions: Choose one example from those given in Exercise 2 above, and write a complete paragraph that includes one or two minor support sentences in the spaces provided.

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Exercise 4.

Directions: The following are groups of sentences that can be rearranged into process analysis paragraphs. Choose the main idea in each group, then write a paragraph in the spaces provided, using the rest of the sentences. Be careful to arrange your support sentences in proper order. You may also use transition markers, combine some of sentences or change nouns into pronouns, and so on, to make the paragraphs unified and coherent.

Group 1:

1. Scientists usually must survey the literature relating to the problem.
2. Scientists come up with a problem hypothesis.
3. An hypothesis is a possible solution to the problem.
4. Scientists identify and define a problem.
5. From the hypothesis, the scientists deduce certain consequences.
6. The scientific method used in research experiments by scientists proceeds in the following way.
7. Scientists construct an experimental plan.
8. Scientists conduct experiments and determine whether the results are significant or not. (1)

(1) Adapted from Rubin, op.cit., p.233.
Write your paragraph here.


Group 2:

1. If you have friends in the area, ask them if they know of any cheap apartment.

2. You should make phone calls to the apartment that looks good to you to get information.

3. As a new student of RU, finding a cheap, but good apartment is not difficult if you follow the following suggestions.

4. If you have no friends in the area, you should look in the newspaper under "Apartment for Rent".
5. After you get the information from the apartment officials, you should go to see the apartments and choose the one you like.

Write your paragraph here.

Exercise 6.

Directions: Write outlines of the paragraphs you have written in the spaces provided. Before writing, study the example given on page 188.
Outline of paragraph 1.

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Outline of paragraph 2.

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