

Training First Year Science Students for Basic Writing Skills: A Case of Waseda and Keio

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<Summary>

Learning how to write paragraphs in correct format and appropriate structures is critical for all ESP students. Science and Technology major students are no exception. Once they learn how to write a paragraph, they can easily move on to writing multiple paragraphs. But how should we instruct them effectively? In this poster session, I present one example for that.

<Purposes>

- To suggest ways to train first year Science students for basic writing skills → [Teaching](#)
- To present one example of writing exercises in case of Waseda and Keio University → [Application](#)
- To provide some personal reflections → [Assessments](#)

<Setting>

Science and engineering/technology major students are required to acquire basic writing skills in their first year mandatory English class. Within a limited time of the tight itinerary, they learn how to write a paragraph (in the Spring term) and an essay/multiple paragraphs (in the Fall term). How can we teach them quickly and effectively?

<Teaching Process for Writing >

Step 1: Format – Indentation & Double space

Visualize the image of a paragraph format first.

↓ ↓ (Indentation)

_____XX
XX
XX
XX

Step 2: Paragraph Structure

Visualize the image of a paragraph structure next.

↓ (Indentation)

↓ (Topic Sentence) ↓

_____XX.
XX
XXXX (Supporting Sentence) XX. XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX.
XXXXXXXXXXXXXXXXXXXX (Supporting Sentence) XXXXXXXXXXXXXXX. XXXX
XX
XXXXXXXXXXXX (Supporting Sentence) XXXXXXXXXXXXXXX.
XX.

↑ (Concluding Sentence) ↑

Step 3 A Sample Single Paragraph

Students read the sample of one paragraph summary of an academic lecture (science topic). To identify the functions of the topic sentence, supporting sentences, transitions and concluding sentence, they are colored or highlighted.

Tidal Wave: What Is It? What Causes It? How Can We Predict It?

(Topic sentence) A tidal wave is a very large and destructive water wall that rushes in from the ocean toward the shore. (Supporting sentences) *First, it is generally called tsunami, meaning “storm wave,” and it comes rushing in suddenly and unexpectedly. *Second, it is caused by an underwater earthquake, called a seaquake. When a seaquake occurs at the bottom of the ocean, the ocean floor shakes and trembles, and sometimes it shifts. This shift produces the tidal wave, moving across the sea fast. *Finally, scientists can predict when a tidal wave will hit the land today, by using a seismograph, an instrument that records the strength, the direction and the length of time of an earthquake or seaquake.

(Concluding sentence) It is not possible to hold back a tidal wave, but it is possible to warn people that a tidal wave is coming.

(Reference: This summary is based on the lecture in Dunkel, P., & Lim, P. L. (2006).

Intermediate Listening Comprehension: Understanding and Recalling Spoken English (3rd ed.). Boston, MA: Thomson Heinle.)

Step 4: Transitional Expressions (Students learn to logically connect sentences with transitional expressions. The followings are some useful transitions:

Sequence -- first, second, third, next, finally, etc.

Addition -- and, then, also, too, moreover, besides, furthermore, in addition, etc.

Contrast -- but, yet, however, nevertheless, on the one hand, on the other hand, in contrast, while, whereas, etc.

Result -- so, therefore, thus, as a result, so that, etc.

Reason -- because, for, as, due to, owing to, etc.

Example -- for example, for instance, in other words, etc.

★ Students write a paragraph (in the Spring term) with the title of “A Scientist/Physicist/Engineer I admire.” This topic motivates students to write as it relates to their field of study.

A Scientist I Admire

I admire Professor Shinya Yamanaka. He was awarded as the Nobel Prize winner for Physiology or Medicine. Then, he was fifty years old. He was so young to have been awarded as the Nobel Prize winner. Professor Shinya Yamanaka belongs to Kyoto University, and he developed induced pluripotent stem cells (iPS cells). Skin cells turn into most kinds of cells with iPS cells. He began to research iPS cells with three staffs at first. They were faced a big problem that was lack of funds. He raised a contribution on condition that he finished the Kyoto Marathon. The result that he got the contribution of ten million. And he resumed to research iPS cells. At last, he finished to research iPS cells and completed iPS cells. In the future, this study helps many people who have different types of diseases. So I respect Professor Shinya Yamanaka, and I expect that iPS cells helps many people.

コメント [Y1]: At that time

コメント [Y2]: As a result,

コメント [Y3]: yen, and

コメント [Y4]: them

コメント [Y5]: will help

コメント [Y6]: will help

Step 5 Essay Structure (in the Fall term)

Students learn a fundamental structure pattern for multiple paragraphs.

I usually remind them of that following this structure pattern is very important to write an essay.

1. Introductory Paragraph (+ Thesis Statement)
2. Supporting paragraphs
(Topic Sentence + Supporting Sentences)
3. Concluding Paragraph
(Restate or Summarize)

The following is a sample essay from a handout:

SAMPLE Essay

How to Cope with Stress

(Introductory Paragraph) You have three midterm examinations next week and a paper due in sociology. To make matters worse, you are scheduled to work an extra six hours at your part-time job, and your car is beginning to make some strange noises. The only bright spot is the big football game this weekend. If you have weeks like this one, you are probably feeling the effects of stress, effects that leave you feeling frazzled and can lead to serious medical problems. Fortunately, stress can be reduced with the help of a simple three-step plan. **(Thesis Statement)**

The first step to coping with stress is exploring your situation and changing your attitude.

(Topic Sentence - 1st paragraph) What is causing your stress? Like many people, you may have taken on so many activities that you feel overwhelmed. To deal with this problem, make a list of everything that is contributing to your stress. Then rank each item according to how serious the consequences would be if you did not do it. For example, you need to do well on your midterms, and you need a car to get to school and to work. So as much fun as the football game would be, you should spend the weekend studying and getting your car repaired. If you have trouble ranking the items, show your list to someone who has the objectivity to see a good solution. As you accomplish the things on your list, cross them off. This technique will help you to manage your time more efficiently and will give you a sense that you are in control of your life.

The second step to reducing stress is to begin a program of regular physical exercise.

(Topic Sentence - 2nd paragraph) When people are under a great deal of stress, their bodies produce extra adrenalin, which quickens the heartbeat, increases the sugar level in the blood, and slows up or stops digestion. These bodily changes, in turn, cause people to sweat, to have upset stomachs, to feel jittery, and to lose sleep. However, if you exercise vigorously for 20 to 30 minutes a day—run or swim, for example—you will use up the extra energy produced by the high sugar level, and the physical symptoms of stress will probably disappear. Exercise on a planned schedule so that it

becomes a habit, and do not exercise too near bedtime so that it does not interfere with sleep. Exercise will calm you and give you a feeling of well-being that will allow you to deal more effectively with your hectic lifestyle.

To reduce stress still further, do mental exercises every day. (Topic Sentence – 3rd paragraph) In a quiet room, sit up straight in a comfortable chair with your feet resting on the floor. Close your eyes and listen to your breathing. Slowly inhale through your nose, hold the breath for several seconds, and then exhale slowly through your mouth. Doing this exercise at least four times should help to relax you. Then with your eyes still closed, visualize a beautiful tropical beach. There you are, floating in the clear blue water. As the gentle current carries you along, you look up at the puffy white clouds crossing the sky. You hear the gentle breeze rustling through the palm trees. You feel calm and peaceful. If you do this mental exercise twice a day for 20 minutes each time, your mind and body will become more relaxed.

(Concluding Paragraph) **Thus, you do not have to be the victim of stress if you follow this three-step plan.** (Topic Sentence – 5th paragraph) **First**, examine your situation and be realistic about what you can accomplish in the time you have. **Second**, find some time in your busy schedule to do physical exercise every day. **Third**, take a mental vacation and relax. These three steps can help you maintain your health, become more productive at work or school, and enjoy life to the fullest. (Source: Writing multiple-paragraph-long passages (ALC2) The handout is from unified material at CELESE)

Step 6 Students are assigned to write multiple paragraphs with the title of “An ideal robot” (in the Fall term). In this writing exercise, they should create their own invention following the paragraph structure pattern they have learned. They are to write up the features and functions of their imagined robots in detail. The following is an example of students’ work.

An Automatic Translator

There are more than 5,000 languages in the world. Our communication is now **turning** more and more difficult via the Internet. **It is very important for us to know each other. Accordingly, my ideal robot is an automatic translator robot.**

(Thesis Statement)

First, **an automatic translator robot can keep a secret of an important situation.** (Topic Sentence) Nowadays, some conversations between speakers of different languages are spoken through a human translator. **If** they want to keep the conversation a secret, a human translator can **understand** the secret. **For example,** they don't want to let a third party know if they talk about diplomatic issues, tactics of the World **cup's** match and unknown inventions. An automatic translator never unveils **a secret.**

Secondly, **oversea tourists can take a journey in safety.** (Topic Sentence) When they don't understand each other in a foreign country, they sometimes face danger. If they have an automatic translator, it is easy to get tickets to ride a bus or **train in addition** they can get in touch with the police.

Finally, **an automatic translator broadens people's outlook.** (Topic Sentence) An useful piece of information on the Internet and books is written in various languages, so people can't read all of them. **If** they overcome language barrier, they can get a lot of information. They may know facts and truth that has been hidden until then. **That is,** they use an automatic translator, and they can **touch** information all over the world.

In conclusion, an automatic translator, my ideal robot, is very useful and innovative. (Concluding Sentence)

コメント [Y7]: becoming

コメント [Y8]: accordingly

コメント [Y9]: Even if

コメント [Y10]: find out

コメント [Y11]: Cup's

コメント [Y12]: such secrets

コメント [Y13]: a train. In addition,

コメント [Y14]: However, if

コメント [Y15]: get

In addition to writing skills, this exercise involves speaking and presentation. They make a mini presentation based on the writing assignment in a group setting before submitting their writing. They explain their imagined robots while showing the visuals they have drawn. Other students ask questions or make comments on each presenter. Instead of reading sentence by sentence, they are supposed to speak in their own words so that they can practice presentation. Such group work helps create a rapport in class.

<Assessments>

- Learning formats & structures first makes it easy for learners to write a paragraph/paragraphs.
- A good writing sample helps students to write their own paragraphs and essays.
- Brain storming and outlining are also involved before they start writing.
- Presentation and discussion follow after they write their assignments.
- These writing activities actually supplemented in an English class for Science and Technology major students. Not only does this writing exercise inspire them to write multiple paragraphs, but also it arouses their interest in science and technology field

<Future perspectives>

Students will learn more advanced writing in the 2nd or 3rd year, and they can also learn more technical writing skills in elective courses. Therefore, mastering fundamentals of writing is critical for their further studies.

In the future classes, I plan to use topics involving their extensive research. It will be a good training for learning research skills.

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