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English for Health Sciences I

Second Edition

Supong Tangkiengsirisin, Ph.D.



AUDIO CD INSIDE

English for Health Sciences I

Second Edition

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Supong Tangkiengsirisin.

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Preface

Based on the English for Specific Purposes syllabus, *English for Health Sciences* was specially customized to be used as the core textbook for EL 211 (English for Health Science 1), offered by the Language Institute, Thammasat University. In addition, this textbook would be suitable for any academic course focusing on the use of English in health sciences. The main purpose of this textbook, as well as that of the course, is to expose students to the English language involving major areas in health sciences. The users of this course book should be able to improve their integrated skills necessary for the understanding and production of English typically used in the study and research related to this particular field.

English for Health Sciences I consists of seven units focusing on a wide range of topics in health sciences and extensive language skill practice. Each unit is divided into eight sections, which cover both theoretical and practical aspects of language learning. Beginning with reading comprehension practice (i.e. *Starter, Input, Comprehension Check, Vocabulary Check, and References*), each unit aims to motivate students to think about a specific topic in health science while familiarizing them with a set of vocabulary items related to the topic. Furthermore, this initial part of the chapter is meant to sharpen students' analytical reading skills particularly comprehending academic passages and identifying references. Contextual clues, identifying main ideas, finding details, and drawing inferences and conclusions are also included in this section.

The subsequent section is for aural practice where students will hear a talk on the topic pertaining to the chapter and attempt questions that evaluate their listening skill. This section is followed by *Language Focus & Writing*, which provides explanations, illustrations, and exercises regarding selected lexical, syntactic, and rhetorical elements useful for writing skill development.

Paragraph writing is also emphasized in this section, where students can enhance their expository writing which is a foundation for their future, more advanced research writing. Then, the final section of each unit is dedicated to oral skill development. This section provides language patterns and expressions generally used to convey a particular rhetorical function. A speaking task is assigned at the end of this section.

With all the comments and feedback from the former users of this book, both the teachers and the students, the earlier versions of this book were developed into the present form. *English for Health Sciences I* has become more complete and should be appropriate for sharpening all the language skills related to health sciences.

Supong Tangkiengsirisin

2004



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Finally, thanks to Assistant Professor Tanom Tiensawangchai for his help and an insight into how to compile an English textbook for health sciences.



Course Plan

Unit	Reading & Listening	Language Focus	Writing	Speaking
1	About Health Science	Subject-verb agreement Compound Sentences Parallelism	Paragraph Development	Introductions in academic presentations
2	Dental Health	Adverbial Clauses Gerunds	Writing instructions	Giving instructions
3	A Second Opinion	Defining Prefixes Suffixes Adjectives with -ing and -ed	Writing a paragraph of definition	Defining
4	Human Organs: Organ Retention	Forming compound nouns Passive Voice Physical and Functional Descriptions	Writing a paragraph of description	Describing

Unit	Reading & Listening	Language Focus	Writing	Speaking
5	Food and Health	Modals indicating possibility, necessity and advisability Giving examples	Writing a paragraph of exemplification	Giving examples
6	Fighting the Diseases	Relative Clauses Comparing similarities and contrasting differences	Writing a paragraph of comparison and contrast	Comparing and Contrasting
7	Medicinal Herbs	Classifying	Writing a paragraph of classification	Classifying



Unit
1

About Health Science

STARTER

Directions: Discuss the following questions with your teacher or classmates.

1. What are the major causes of illnesses and injuries?
2. What do you do when you are ill or injured?
3. What does “health science” involve?
4. Whose work is related to health science?
5. How useful is health science to people’s health?

INPUT

Directions: Read the following passage and respond to the questions as directed.

Health Science

- Health science is the discipline of applied science which deals with human and animal health. There are two parts to health science: the study, research, and knowledge of health and the application of that knowledge to improve health, cure diseases, and understand how humans and animals function. Research builds on the pure sciences of biology, chemistry, and physics as well as social sciences (for example medical sociology).
- 5

Historical overview

The foundations for the health science fields are as old as the human race. Humans have always been in need of solutions to address illness, injury, and various health related issues such as childbirth. With modern technology and the backing of the pure sciences, the scientific accuracy of these fields has greatly improved. Nevertheless, many cultures have continued to use various herbs and other culturally specific solutions to help solve health problems that may or may not be backed by any scientific support.

Health delivery

There are a large number of health professions. The terms medicine or biomedicine, and medical doctor or M.D. refer to dominant conventional practices in the West. There are a wide range of traditional areas of health science. The most common areas are: medicine, nursing, midwifery, and various forms of therapy to supplement the healing process and restore proper activity (e.g. recreational, physical, speech, and respiratory). Health science includes both the study and application of preventing and curing human diseases and disorders. Medical doctors include physicians and surgeons. There are many different branches of medicine; the other health care professions also have specialties or focus on specific populations or settings of care. Public health studies the effect of environmental factors such as available health care resources on the health of the general population, often focusing on particular populations, such as mothers and children. Dietitians educate people about proper nutrition, particularly specific dietary needs of populations such as people with diabetes, breastfeeding women, and people with celiac disease. Other less common medical areas include first aid.

Dental health has grown in importance in recent decades making dentistry a major field of health sciences. Counseling, hospice care, home care, nutrition, medical social work, alternative medicine, pharmacology, and toxicology are all considered part of health science.



Veterinary medicine is the health science dedicated exclusively to the care of animals. Veterinary medicine is involved in preventing and curing animal diseases and disorders, inspecting animal originated food (like milk and meat) and animal husbandry.

40 *Contemporary themes*

Because health science deals with human life, issues of medical ethics, an important area of ethics, arise frequently. Medical ethics includes questions on topics such as a patient's right to privacy. Euthanasia, abortion, human cloning, stem cell research and genetic engineering

45 are especially controversial issues directly related to health science.

(Retrieved May 8, 2002, from http://en.wikipedia.org/wiki/Health_science)

COMPREHENSION CHECK

Directions: Using the information in the INPUT, choose the correct answer for each of the following questions.

- Which of the following is NOT true about health science?
 - It is an applied science.
 - It concerns both human and animal health.
 - It can help people live in better health.
 - It is related to pure sciences only.
- Medical sociology is an example of _____.
 - pure sciences
 - social sciences
 - physics
 - research works
- Health science _____.
 - has long been in existence
 - is not involved with childbirth
 - can never become more accurate
 - is mainly based on the study of herbs
- The word "nevertheless" (in the second paragraph) can be replaced by _____.
 - thus
 - otherwise
 - however
 - similarly

5. All of the following are professions involving health science EXCEPT _____.
- a. nurse
b. midwife
c. physician
d. professor
6. Public health focuses on _____.
- a. the effects of diseases on the general population
b. the availability of resources for particular populations
c. the environmental factors that influence population growth
d. the provision of health care for poor mothers and children
7. Dietitians help people in terms of _____.
- a. food
b. weight
c. emergency
d. rare diseases
8. Veterinary medicine is studied by _____.
- a. those who use animals in farming
b. those who like keeping animals as pets
c. those who produce medicine from animals
d. those who are interested in animals' health
9. Medical ethics mainly involves _____.
- a. human moral behavior
b. human rights to live and die
c. alternative ways of birth
d. alternative ways of death
10. The passage above primarily _____.
- a. discusses the importance of health science in research
b. provides an overview of health science and its branches
c. explains why health science has been subdivided into different branches
d. describes the diseases that can be cured by the application of health science

VOCABULARY CHECK

A. *Directions:* Match the words on the left with their meanings on the right.

- | | |
|----------------------|----------------|
| _____ 1. discipline | A. preciseness |
| _____ 2. foundations | B. traditional |
| _____ 3. accuracy | C. doctors |

- | | |
|-----------------------|--|
| _____ 4. dominant | D. add |
| _____ 5. conventional | E. mercy killing |
| _____ 6. midwifery | F. farming |
| _____ 7. supplement | G. basic principles |
| _____ 8. disorders | H. more powerful |
| _____ 9. physicians | I. area of knowledge |
| _____ 10. specialties | J. illnesses |
| _____ 11. husbandry | K. jobs that people know a lot about or have a lot of experience of |
| _____ 12. euthanasia | L. the skill of a specially trained nurse, usually a woman, whose job is to help women when they are having a baby |

B. Directions: Complete the following sentences using the words given.

abortion	breastfeeding	conventional	discipline	disorder
dominant	euthanasia	midwifery	specialties	toxicology

- The young man is suffering from a rare genetic _____; blindness has genetically been passed down from his father to him.
- Dr. Viboon's and Dr. Jitra's _____ are nutrition and pharmacology respectively.
- A mother should make sure she eats only wholesome food while _____.
- _____ is practiced so that a woman can deliver a baby.
- The researcher specializes in _____; she studies different types of poisons and their effects.
- Even with the consents of most relatives of the terminally ill, _____ is still a controversial issue because it concerns the patients' right to live or die.
- After her husband's death, the young woman resorted to _____ when she decided that she could not support her baby-to-be financially.

8. Because the _____ way of treatment did not work, the patient thought he should try some kind of alternative medicine.
9. Even though she is from Thai family background, independence and self-confidence are her _____ personalities.
10. Health science is the _____ related to many other branches of science and social science.

REFERENCES

Directions: Using the line references given, look back in the INPUT and find the references for the words in italics.

1. ...the discipline of applied science which deals with...[line 1]
Answer: _____
2. ...and the application of that knowledge...[line 3]
Answer: _____
3. ...the scientific accuracy of these fields... [line 10]
Answer: _____
4. ...solve health problems that may or may not...[lines 12-13]
Answer: _____
5. The most common areas are... [lines 18]
Answer: _____

LISTENING

Directions: You will hear a talk on “Medicine”. Listen to the talk and write T before a true statement and write F before a false statement.



- _____ 1. Medicine concerns how to keep a person healthy.
- _____ 2. Medicine is both knowledge and application.
- _____ 3. Only people in the medical professions can practice medical care.
- _____ 4. Allied health professions include nurses and pharmacists.

- _____ 5. In most countries, anyone can practice medicine.
- _____ 6. Neurology is a sub-branch of medicine.
- _____ 7. Medicine and health care have long been in existence.
- _____ 8. All traditions of medicine developed in the Western world.
- _____ 9. The Hippocratic tradition is exactly the same as the Western tradition.
- _____ 10. Some systems of medicine are competitors of the Western tradition.

LANGUAGE FOCUS & WRITING

Subject-Verb Agreement

In a sentence, the subject and the verb must agree in number and person, particularly when the verb is to be supplied in the present tenses and past continuous tense. You may add *-s* or *-es* to the end of a singular verb or put a verb in its appropriate singular or plural form, e.g. *is*, *are*, *was* or *were*. To be aware of various types of subjects will enable you to supply verbs in correct singular or plural forms to agree with the subjects. Usually, a singular countable noun when used as a subject takes a singular verb, and a plural countable noun takes a plural verb. Other subjects can be divided into three main types as follows:

1. Subjects that take singular verbs

1.1 All uncountable nouns take a singular verb.

*e.g. The knowledge gained from experience **is** invaluable.*

*The news concerning the disease **was** very positive.*

Note: Certain nouns ending in *-s*, like those involving diseases or subjects, take a singular verb.

news	economics	mathematics	AIDS
	ethics	physics	measles
	linguistics	politics	mumps

*e.g. Mathematics **is** my favorite subject.*

*Ethics **concerns** the study of moral behavior.*

1.2 The titles of books, plays or movies take a singular verb.

e.g. *Macrobiotics* **is** a well-known book on nutrition.

AIDS **is** a fatal disease that can't be cured.

1.3 Nouns stating an amount of time, money and measurement, although they may be plural, always take a singular verb.

e.g. *Fifty thousand baht* **is** too much for the patient's parents.

A hundred and forty centimeters **is** an unusual height.

Thirty minutes **is** not enough for us to discuss this problem.

1.4 When the words below are used as subjects, they take a singular verb.

one	any (+ sing.noun)
each (+ sing.noun)	some (+ sing.noun)
every (+ sing.noun)	no (+ sing.noun)

e.g. *Each nurse* **is** working hard to help patients.

No one in the hospital **recognizes** this symptom.

1.5 When the words "much," "more," and "little" are used as subjects, they usually take a singular verb.

e.g. *Little* **is** known about the new medical field.

1.6 When a gerund (V+ing) and an infinitive (to+V1) are used as subjects, they usually take a singular verb.

e.g. *Overeating* **is** bad for health.

To be able to walk **is** the dream of that disabled patient.

2. Subjects that take plural verbs

2.1 Subjects joined by "and" or "both...and" usually take a plural verb.

e.g. *Humans and animals* **have** been affected by the severe disease.

Both the doctor and the medical researcher **are** attending a conference in New York.

2.2 When the words "both," "several," "many," and "few" are used as subjects, they take a plural verb.

e.g. *Several* **have** volunteered to help with the new medical project.

3. Subjects that may take either a singular or a plural verb

3.1 The following words, when used as subjects, may take a singular or a plural verb depending on the nouns that follow them.

all	half	most	none	some
-----	------	------	------	------

e.g. *None of the information about the new medical discovery **has** been publicized.*

*None of the dentists **are** concerned about this problem.*

3.2 When two subjects are joined by *either...or*, *neither...nor*, or *not only...but (also)*, the verb can be singular or plural depending on the noun nearest to it.

e.g. *Either a GP or a specialist **is** to take care of this case.*

*Not only surgeons but also all other physicians **are** interested in this phenomenon.*

3.3 When two subjects are joined by the following phrases, the verb can be singular or plural depending on the first noun, which comes before the phrase.

accompanied by	along with
among	as well as
in addition to	together with

e.g. *Sedatives, along with other types of tranquilizers, **are** used to put the patient to sleep.*

*Pramote and Linda, as well as their daughter, **have** been down with flu.*

3.4 The expression “*a number of + plural noun*” takes a plural verb, whereas the expression “*the number of + plural noun*” takes a singular verb.

e.g. *A number of doctors **are** gathering in front of the OPD building.*

*The number of doctors in this hospital **is** large enough to take care of all the patients.*

3.5 When a word indicating nationality refers to a language, it takes a singular verb. But when it refers to the people, it takes a plural verb.

e.g. *Japanese **is** the main language used in this ward.*

*The Chinese **are** more prone to avian flu than other people.*

3.6 Fractions and percentages take a singular verb when they are followed by an uncountable noun, and take a plural verb when followed by a plural countable noun.

e.g. *More than half of the patients **are** believed to have contracted a new strain of malaria.*

*Seventy-five percent of the water used in this local infirmary **comes** from rain.*

3.7 A sentence with “*There + be*” pattern takes a singular verb when the noun following it is singular and takes a plural verb when it is followed by a plural noun.

e.g. *There are a large number of health professions.*

Exercises

A. Directions: Choose the correct verb form(s) in each of the following sentences.

1. The news *has/have* surprised everyone in the clinic.
2. Little *has/have* been known about the contagion.
3. Either the director or his assistant *is/are* to visit Asia next year.
4. The exhumations *is/are* projected to continue throughout the summer.
5. Sixteen-year-old Tikashi Take *was/were* being operated on so that his tonsil would be removed.
6. There *is/are* a large number of germs that can be killed by heat.
7. Not only Thailand but other countries in the same region *is/are* also facing a critical epidemic.
8. A large number of Kenyans *is/are* taking refuge in the camps during the severe attack of the disease.
9. Prescribing hazardous drugs *is/are* absolutely forbidden.
10. Five per cent of the blood *has/have* been taken out for donations.
11. The vet, along with his assistants, *is/are* going to calm down the angry, painful dog.
12. AIDS, as well as other emerging infectious diseases, *continues/continue* to pose threats to people all over the world.

13. Chemicals selected for NTP toxicology and carcinogenesis studies *is/are* chosen primarily on the bases of human exposure, level of production, and chemical structure.
14. The resulting data *is/are* compared to the data for untreated fetuses observed for that species in the test laboratory.
15. Autoimmunity, another form of immune-mediated disease, *is/are* characterized by an immune response against constituents of the body's own tissues (autoantigens).
16. Two-thirds of the land *has/have* been allocated for the construction of a new hospital.
17. The Japanese usually *eats/eat* fish, so they do not need fish oil as a dietary supplement.
18. None of the clinics in this neighborhood *is/are* open every day.
19. Each nurse *has/have* to take care of her own patients but may help other nurses take care of theirs if they are not available.
20. Due to the terrorist acts, few *has/have* volunteered to work in the hospital near the border of the country.

B. Directions: Choose the correct word forms in the following text.

Lung Scarring Diseases Linked to Genes and Smoking

New research (1)*shows/show* that idiopathic interstitial pneumonia (IIP), a group of potentially fatal disorders that (2)*affects/affect* the lungs, may be caused by an interaction between a specific genetic background and cigarette smoking. In a study of 111 families that had at least two relatives with IIP, people who smoked cigarettes (3)*was/were* three times more likely than non-smokers to develop the disease. The research (4)*was/were* supported by the National Heart, Lung, and Blood Institute (NHLBI) and the National Institute of Environmental Health Sciences (NIEHS), both institutes within the National Institutes of Health.

IIPs (5)*is/are* often accompanied by scarring and inflammation of the lung known as pulmonary fibrosis. Pulmonary fibrosis (6)*makes/make* the delivery of oxygen to the body's tissues difficult and (7)*is/are* often fatal. About one-half of patients (8)*dies/die* within the first five years of being diagnosed with idiopathic pulmonary fibrosis. The study appearing in the November 1 issue of the American

Journal of Respiratory and Critical Care (9)*provides/provide* new insight into what might cause IIP and new directions for preventing these diseases.

“This study (10)*illustrates/illustrate* the important role that a specific environmental exposure, in this case cigarette smoking, can play in the development of this type of lung disease among people who (11)*has/have* a specific gene,” said David A. Schwartz, M.D., NIEHS Director and a lead researcher on the study. “It once again (12)*underscores/underscore* why people should not smoke.”

“Pulmonary fibrosis currently (13)*affects/affect* approximately 100,000 people in the United States, with an estimated 30,000 people being diagnosed each year,” added Elizabeth G. Nabel, M.D., NHLBI Director. “This study (14)*enhances/enhance* our understanding of one form of pulmonary fibrosis, which could help lead us to strategies for genetic testing, prevention, and treatment of this devastating and complex disease.”

(Extracted from News Release of *National Institute of Environmental Health Sciences*, 1 November, 2004.)

The Compound Sentence (with coordinating conjunctions)

To avoid repetition or choppy sentences in writing, a writer can join two ideas or two simple sentences together forming a *compound sentence*. This kind of linking can be achieved by using *coordinate conjunctions*. A compound sentence, therefore, is composed of at least two independent clauses joined by conjunctions. All the clauses are of equal importance and can stand on their own. However, they must follow a logical order as required by the context.

When a compound sentence is formed, there may be two combined single sentences with two pairs of subject and verb, or elements which are the same in all parts of the sentence can be omitted. When two single sentences are combined, a comma is usually used to separate them.

Types of coordinating conjunctions

1. Addition/sequence

This type of coordinating conjunction is used to join two similar ideas or a sequence of ideas. These conjunctions include:

and	both...and	and then
not only...but...(also/as well)		

e.g. *At a hospital, all visitors are supposed to keep quiet **and** mobile phones should not be used.*

(At a hospital, all visitors are supposed to keep quiet.
At a hospital, mobile phones should not be used.)

Both *the doctor **and** the nurse were rushing to the ICU.*

(The doctor was rushing to the ICU.
The nurse was rushing to the ICU.)

Note: When the two subjects are joined, a plural verb is required in a new sentence.

***Not only is** health science concerned with the medical treatment of humans, **but (also)** veterinary medicine, which mainly deals with the treatment of animals, is also a sub-branch of health science.*

(Health science is concerned with the medical treatment of humans. Veterinary medicine, which mainly deals with the treatment of animals, is also a sub-branch of health science.)

Note: When the phrase “Not only...” is placed at the beginning of a sentence and used to join two independent clauses (like the example above), the clause following the phrase is inverted; that is, a modal or auxiliary is moved around to the position before the subject. (This grammatical rule is called “inversion.”)

2. Contrast

This type of conjunction is used to contradict two opposing ideas. These conjunctions include ‘*but*’ and ‘*yet*’.

e.g. *He implied his intention **but** (he) didn’t state it.*

(He implied his intention.
He didn’t state his intention.)

*The scientific accuracy of modern medicine has greatly improved, **yet** many cultures have continued to use various herbs and other culturally specific solutions to health problems.*

(The scientific accuracy of modern medicine has greatly improved.
Many cultures have continued to use various herbs and other culturally specific solutions to health problems.)

3. Alternatives

This type of conjunction is used to show alternatives, or choices, between two items. These conjunctions include ‘*or*’, ‘*either...or*’, ‘*nor*’, and ‘*neither...nor*’.

e.g. *The foreign patient can speak Italian, **or** perhaps he only understands some Italian words.*

(The foreign patient can speak Italian.
Perhaps he only understands some Italian words.)

*The pathologist **neither** published her findings **nor** presented them in a symposium.*

*The pathologist **did not** publish her findings, **nor** did she present them in a symposium.*

(The pathologist did not publish her findings.
The pathologist did not present her findings.)

4. Result

This type of conjunction is used to show a result of a particular cause. The basic conjunction of this type is 'so'.

*e.g. Health science deals with human life, **so** issues of medical ethics arise frequently.*

(Health science deals with human life.
Issues of medical ethics arise frequently.)

*The scientist was awarded a Nobel Prize, **so** he became well known worldwide.*

(The scientist was awarded a Nobel Prize.
The scientist became well known worldwide.)

5. Cause

This type of conjunction is used to indicate a cause of something. The basic conjunction of this type is 'for'.

*e.g. No one recognized the scientist during his lifetime, **for** he always isolated himself and spent all the time in his lab at home.*

(No one recognized the scientist during his lifetime.
The scientist always isolated himself and spent all the time in his lab at home.)

*The vet found it really difficult to sustain the dog's life, **for** it was getting weaker and weaker.*

(The vet found it really difficult to sustain the dog's life.
It was getting weaker and weaker.)

Exercises

A. Directions: Combine each pair of the following sentences using an appropriate coordinating conjunction.

1. He wished to become a dentist.
He decided to study dentistry at a university.

2. The researcher has been conducting experiments for years.
He doesn't seem to be able to succeed.

3. The survey team could not speak English.
The survey team could not speak any dialects used in that foreign country.

4. Thomas might become a pharmacist.
Thomas is interested in drugs.

5. The doctor may prescribe drugs to treat the patient.
The doctor may give the patient an injection.

6. The sick man should stop his work for at least a week.
The sick man should take a complete rest at home.

7. Jinda usually sees a doctor at a hospital when she is ill.
Somkiat normally sees a doctor at a clinic near his house.

8. There have been inevitable technological advances in the past century. These have rendered some traditional ways obsolete.

B. Directions: Complete the following sentences properly. Demonstrate your ability to understand the coordinating conjunction used in each sentence.

1. The dog was terminally ill, so _____.

2. To remain healthy, a person needs to eat wholesome food, and he/she _____.

3. The surgeons tried their best to save the patient's life, but _____.

4. The cancer patient has to change his diets, or _____.

5. The patient's relatives became hopeless, for _____.

6. The old woman who was afflicted by arthritis wouldn't see a doctor, nor _____.

Paragraph Development

One of the central components of a paper is the paragraph. A paragraph is a group of sentences that convey related ideas under one particular topic and are put together with specific tools to make them unified, coherent, and consistent. A paragraph in a scientific paper should contain sentences unified around one central, controlling idea. Then all paragraphs form an article or a research paper which primarily discusses a specific academic subject.

A paragraph consists of a *topic* and a *controlling idea*, both of which are expressed in a statement called "*topic sentence*". In most academic writing, a topic sentence is explicit, being placed at the beginning, the middle, or the end of a paragraph, while in other types of writing, such as an editorial, a topic sentence can be implied. In this course, whose focus is mainly on academic writing, particularly scientific writing, each paragraph a student produces should contain an explicit,

or straightforward, topic sentence. On the next page, look at the paragraph taken from the reading passage above.

Health science is the discipline of applied science which deals with human and animal health. There are two parts to health science: the study, research, and knowledge of health and the application of that knowledge to improve health, cure diseases, and understand how humans and animals function. Research builds on the pure sciences of biology, chemistry, and physics as well as social sciences.

In the above paragraph, the first (italicized) sentence serves as the topic sentence of the paragraph. The main topic is “health science” and the controlling idea is “the discipline of applied science which deals with human and animal health.” This sentence reveals that the whole paragraph aims at defining and describing the term “health science”. The other sentences in the paragraph provide further details that revolve around the main topic, and they are all relevant to the definition and description of the scientific discipline.

Characteristics of a paragraph

Every paragraph in an academic paper should be:

Unified –The sentences should all be related to the main idea, or topic, of the paragraph. There should be no sentences that are irrelevant to the topic.

Coherent –The sentences should be arranged in a logical order so that the ideas flow smoothly throughout the paragraph. Cohesive devices should be used to achieve the coherence of a paragraph.

Well-developed – Every idea discussed in the paragraph should be adequately clarified and supported through vivid evidence and details that work together to explain or justify the paper’s controlling idea.

To help you understand how a paragraph should be developed, a paragraph on a general topic, the importance of English, is provided below as an example. Study the paragraph and its analysis.

English is important to our lives in several ways. First of all, it is important for our education and work. In this era of globalization, people across the world need to communicate with one another. Therefore, English, which has been used as the international language for years, is becoming

more and more popular. In most schools and universities all over the world provide their students with the training of English, so that they can understand English textbooks and can communicate in English effectively. In a large number of companies and various other types of organizations today, English is used as a medium of communication both locally and internationally. Professionals who can understand, write, or speak English will have an advantage over those who cannot. **Apart from work and studies**, *English is also necessary for many kinds of modern entertainment*. Due to the popularity of international movies, especially American films, a viewer needs to understand English in order to understand a movie. Even though a subtitle may be provided, or an English film may be dubbed in another language, however, it would be more fun if we could understand the language. Then we would not be distracted by the captions appearing at the bottom of a screen, or the joy of watching a movie would not be dramatically reduced by the unpleasant voices that dub the film. In addition, if we take up chatting with international people on the Internet as our pastime, which can also help us learn about other cultures, it would be essential that we know and be able to write in English. Without this ability, we might need to restrict our choice of “pen-friends” only to people who know the same language as we do. In summary, we should be aware of the importance of English and learn to develop our English skills for our educational and professional advancement and for our enjoyable free-time activities.

Analysis

The topic sentence of this paragraph is the first sentence. The main topic is *English*, and the controlling idea is *how (several ways) important English is to our present lives*. The following sentences are all supporting sentences, either major or minor ones. The first major detail is “*it is important for our education and work.*” The other major idea is “*English is also necessary for many kinds of modern entertainment.*” The other sentences serve as minor supporting details that clarify the major ideas and in turn the entire paragraph. Because all the supporting sentences are related to the main topic of the paragraph, and none of them are irrelevant, this paragraph is considered “unified”. We can notice the use of transitional devices (linking expressions) to introduce the major details, i.e. *first of all* is used to introduce the first major detail and *apart from work and studies* the second major detail. There are

also other transitional devices used in this paragraph, namely *therefore*, *however*, *in addition*, and *in summary*. In effect, this paragraph can be considered as “coherent”. Furthermore, all the supporting sentences provide evidence that adequately clarifies the gist or the controlling idea of the paragraph. Then we can say that this paragraph has been well developed.

In writing a paragraph, you should ensure that the topic of a paragraph is not too broad or too narrow, but should be manageable so that it is complete and comprehensible. This should be explicitly stated in a topic sentence, which consists of *the main topic* and *the controlling idea*. A main topic is a noun or noun phrase that reveals what a paragraph is mainly about. A controlling idea is the expansion of the main topic in a particular aspect. A controlling idea may be expressed by the words such as *ways*, *methods*, *aspects*, *reasons*, *causes*, *effects*, *advantages*, *disadvantages*, *defects*, and *strategies*. These words provide a general idea regarding the direction of a paragraph -- what details might be included in the paragraph.

Exercises

A. Directions: For each of the following topics, write a feasible topic sentence that is manageable in a short paragraph. Ensure that each of your topic sentences consists of “the main topic” and “a controlling idea”. Feel free to narrow a general topic down to a more specific one.

1. university

2. love

3. success

4. computer

5. health

6. city

7. illness

8. music

9. teenagers

10. cleanliness

B. Directions: Write a 150-word paragraph on ONE of the following topics. Make sure you include a topic sentence, supporting sentences, and some transitional devices in the paragraph.

1. Ways to maintain good health
2. The importance of modern technological devices
3. How we can relieve stress
4. Problems regarding public health in Thailand
5. Interesting health care programs



SPEAKING

Introductions in academic presentations

Publicizing findings arising from a study is one of the primary requirements that all scientists and researchers need to fulfill. One major way of making the new findings known to the public is to make a presentation. This is an essential skill that scientists and researchers should develop so that their messages can get across clearly. To give an effective presentation involves a number of strategies and steps. One of the most important steps is the initial stage when a presenter begins his or her presentation: the introduction. The main purpose of the introduction is to show an audience what the presentation is primarily concerned with. It is also helpful to explain why the presentation is necessary and how significant it is.

For that reason, there are usually three main parts in the introduction. The most useful description is given by Swales (1990, pp. 137-165).

Step 1	Establishing a research territory <ul style="list-style-type: none"> • by showing that the general research area is important, central, interesting, problematic, or relevant in some way • by introducing and reviewing items of previous research in the area
Step 2	Establishing a niche <ul style="list-style-type: none"> • by indicating a gap in the previous research, raising a question about it, or extending previous knowledge in some way
Step 3	Occupying the niche <ul style="list-style-type: none"> • by outlining purposes or stating the nature of the present research • by indicating the structure of the presentation

Step 1: Establishing a research territory

The following expressions are normally used to express Step 1:

- Of particular interest and complexity are
- Recently, there has been growing interest in
- The development of ... has led to the hope that....
- The ... has become a favorite topic for analysis
- The study of ... has become an important aspect of
- A central issue in ... is
- Many researchers have extensively studied ... in recent years.
- Many recent studies have focused on

Step 2: Establishing a niche

This is the most critical move in introductions. It connects Step 1 (what has been done) to Step 3 (what the present research will do). Step 2 thus establishes the reason for the study. By the end of Step 2, the listener should have a good idea of what is going to come in Step 3.

Step 2 establishes a niche by indicating a gap. Probably the most common way to indicate a gap is to use a “negative” subject. Presumably, negative subjects are chosen because they signal immediately to the reader that Step 1 has come to an end. Note the following uses of *little* and *few*:

- However, there is little information/attention/work/data/research
- However, few studies/investigations/researchers/attempts

Of course, not all introductions express Step 2 by indicating an obvious gap. You may prefer, for various reasons, to avoid negative comments altogether. In such cases, a useful alternative is to use a contrastive statement.

- The research has tended to focus on ..., rather than on
- These studies have emphasized ..., as opposed to
- Although considerable research has been devoted to ... , rather less attention has been paid to
- The previous research has concentrated on
- Most studies have been content to
- So far, investigations have been confined to ...
- A recent study showed that ...

Step 3: Occupying the Niche

The third and final step is to fill the gap (or answer the question) that has been created in Step 2.

Below are common expressions used to express Step 3:

- The purpose of this talk is to ...
- The aim of this paper is to ...
- This paper reports on the results obtained
- This study was designed to ...
- In this talk, we give results of ...
- In this paper, we argue that
- This paper argues that
- We have organized the rest of this talk in the following way

- This presentation is structured as follows
- The remainder of this paper is divided into five sections as follows....

Study the following examples.

Example 1

Step 1

Many researchers have extensively studied the development of cancer in recent years. Excluding certain skin cancers, there were more than 270,000 new cases of the disease in 2005 - and the rate is increasing by about 1% a year.

Step 2

However, researchers have found that, while the overall number of new cancers is not falling, successful treatment rates for many of the most common types are improving rapidly.

Step 3

The purpose of this talk is to provide a guide to some of the most common forms of cancer and the treatments used to tackle them...

Example 2

Step 1

Recently, there has been growing interest in obesity. It would be tempting to suggest that more people are seriously overweight than ever before because they eat too much. Certainly, experts are worried about the high fat and sugar levels in many convenience and mass-produced foods. There is also concern about the advent of 'super-sized' portions, already popular in the US.

Step 2

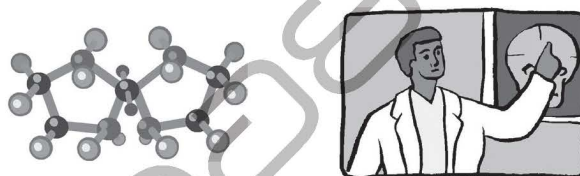
However, the reality is not as simple as that. A significant factor is that modern life is more sedentary than ever before. A recent study showed that housewives in the 1950s actually ate more calories than their modern counterparts - but they were significantly slimmer because their daily lives involved far more physical activity.

Step 3

Scientists suggest they have found a number of factors that contribute to obesity among women today and ways to prevent it. In this talk, we give results of a medical study, which suggests it would be possible to ...

Exercise

Directions: Find a news article which provides some innovative research findings concerning an issue in health science. Then prepare an introduction for an academic presentation on the research result. Make sure you include all the steps in your plan. When ready, demonstrate your introduction before the class.



English for Health Sciences I

English for Health Sciences I consists of seven units focusing on a wide range of topics in health sciences and extensive language skill practice. Each unit is divided into eight sections, which cover both theoretical and practical aspects of language learning. Beginning with reading comprehension practice (i.e. *Starter, Input, Comprehension Check, Vocabulary Check, and References*), each unit aims to motivate students to think about a specific topic in health science while familiarizing them with a set of vocabulary items related to the topic. Furthermore, this initial part of the chapter is meant to sharpen students' analytical reading skills particularly comprehending academic passages and identifying references. Contextual clues, identifying main ideas, finding details, and drawing inferences and conclusions are also included in this section.

The subsequent section is for aural practice where students will hear a talk on the topic pertaining to the chapter and attempt questions that evaluate their listening skill. This section is followed by *Language Focus & Writing*, which provides explanations, illustrations, and exercises regarding selected lexical, syntactic, and rhetorical elements useful for writing skill development. Paragraph writing is also emphasized in this section, where students can enhance their expository writing which is a foundation for their future, more advanced research writing. Then, the final section of each unit is dedicated to oral skill development. This section provides language patterns and expressions generally used to convey a particular rhetorical function. A speaking task is assigned at the end of this section.

With all the comments and feedback from the former users of this book, both the teachers and the students, the earlier versions of this book were developed into the present form. *English for Health Sciences I* has become more complete and should be appropriate for sharpening all the language skills related to health sciences.

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