Unit 9

Digital Crimes and Criminals

COMPUTER CRIMES AND IT ETHICS

Pre-reading Activities

In this unit, you will

- improve your understanding of the target technical words.
- learn about supporting topic sentences with comparison in writing.
- learn how to preview a reading comprehension passage through pre-reading questions to improve comprehension.
- be familiar with digital crimes and criminals.

I. Target Academic Vocabulary

Check out the meanings and functions of the target academic words in a monolingual and bilingual dictionary.

Subject to (adj)

Devastate (v)

Emerge (v)

Defraud (v)

Theft (n)

Multitude (n)

Assault (n)

Anonymity (n)

II. Writing development

Supporting topic sentences with comparison

As the word 'comparison' was defined in the previous unit, this unit introduces two other structures such as *predicate structures* and *sentence connectors*.

A. Predicate structures (to resemble; to have (noun) in common; there are similarities)

Examples:

The popularity of computer crimes virtually *resembles* human crimes.

Computer crimes and human crimes *have many features in common*.

There are many similarities between human and computer crimes.

B. Sentence connectors (similarly; likewise; in the same way)

Examples:

There are laws governing human crimes; *similarly*, there are some laws controlling computer crimes.

There are laws governing human crimes; *likewise*, there are some laws controlling computer crimes.

There are laws governing human crimes; *in the same way*, there are some laws controlling computer crimes.

III. Pre-reading questions:

Read and respond to the questions below, and then discuss them in pair/group.

1. What are computer crimes?

_____

_____

_____

_____

2. How can a theft defraud through a computer?

_____

_____

_____

_____

3. How can computer engineers prevent defrauding digitally?

_____

_____

_____

_____

IV. Reading comprehension passage

This passage discusses the ways through which digital crimes take place and how they can be ethically and digitally prevented.

COMPUTER CRIMES AND IT ETHICS

Computer crime is a phenomenon that has been recently threatening our society. There are few laws governing computer crimes, and those existing laws are subject to a variety of interpretations. Hence, computer users all need to be aware of different IT crimes to stay safe from any digital crimes.

1. Common computer crimes

A brief overview of some of the more common computer crime cases is stated here. Early computer crimes often involved direct physical damage to computer systems and to the long-distance telephone networks. For example, in 1970, a bomb killed one and injured three people, and devastated $16 million worth of computer data stored in the University of Wisconsin. One of the most common forms of computer crime since the start of electronic data processing is data diddling - illegal or unauthorized data alteration. These changes can occur before and during data input or before output. Data diddling cases have included banks' records, payrolls, inventory data, credit card records, school transcripts, telephone switch configurations, and virtually all other applications of data processing.

As the impact of computers increases all around the globe, other forms of computer crimes emerged. In the Salami technique of

computer crime, criminals steal money or resources a bit at a time. There were documented cases of Salami frauds in the 1970s and 1980s. However, one of the more striking incidents appeared in January 1993, when four executives of a Value Rent-a-Car franchise in the state of Florida, U.S were charged with defrauding at least 47,000 customers using a Salami technique. The federal grand jury in the city of Fort Lauderdale claimed that the defendants modified a computer-billing program to add five extra gallons to the actual gas tank capacity of their vehicles. From 1988 to 1991, every customer, who returned a car without topping it off, ended up paying inflated rates for an inflated total of gasoline. The thefts ranged from $2 to $15 per customer-rather thick slices of Salami but nonetheless difficult for the victims to detect. Thus, stealing is generally considered morally wrong; the Koran, Bible, and Torah all agree on this. It is typically against the law and considered unethical.

Developing computer viruses or computer worms are other forms of computer crime. There might be different reasons in developing these malwares. The effect of viruses on a computer ranges from the non-damaging, yet annoying, display of pieces of message on a computer screen, to serious damage such as corrupting programs, deleting files, or reformatting your hard drive. Since viruses are intentionally developed to alter the way a computer operates, creating or spreading a computer virus without the permission is morally unacceptable.

Hacking computer systems and web sites are other forms of technological trouble in our society. A hacker seeks and exploits weaknesses in a computer system or computer network for any illegal

access. Hackers may be motivated by a multitude of reasons, such as profit, protest, or challenge. One of the major motivators for unauthorized access is industrial espionage. The incidents of physical abuse of computer systems did not stop as other forms of computer crime increased. In 2001, a report from Wired Magazine stated that one in every four computers has been physically assaulted by its owner, according to the 4,200 respondents.

2. Computer and IT ethics

Ethics is a set of moral principles that govern the behavior of a group or individual. Therefore, computer ethics is a set of moral principles that regulate the use of computers. Some common issues of computer ethics include intellectual property rights (such as copyrighted electronic content), privacy concerns, and how computers affect society. For example, while it is easy to duplicate copyrighted electronic (or digital) content, computer ethics would suggest that it is wrong to do so without the author's approval. And while it may be possible to access someone's personal information on a computer system, computer ethics would advise that such an action is unethical.

As technology advances, computers continue to have a greater impact on our society. Therefore, computer ethics promotes the discussion of how much influence computers should have in areas such as artificial intelligence and human communication. As the world of computers evolves, computer ethics continues to create ethical standards that address new issues raised by new technologies.

Information technology, computers, and networks do not raise new ethical issues. Stealing is always considered as stealing and so is stalking. However, the Internet does contribute to a fascinating sense of anonymity focusing on the notion that no one can see or find out what we are doing. When people think of ethics, they often think of personal values. While personal values are a large part of ethics, because of the rapid advancement of information technology, a redefinition of ethics occurs. The redefinition of ethics includes the non-human element in the computer. The purpose of ethics in information security is not just philosophically important, and it can also mean the survival of a business or an industry.

The ethical issues are not solely in the use of computer system or software. There are similar codes of ethics in designing and creating computer systems and computer software. For example, the ethical expectations of computer architects are similar to that of physical architects who design houses. If you paid someone, for instance, to design a house, you would expect him to have an ethical responsibility to address threats relating to the geographical area such as earthquake. Once a computer engineer is hired to design and build a new system, it is appropriate to build a system within the requirements defined to withstand a computer crack or virus attack.

Post-reading Activities

I. Reading comprehension

Directions: Mark each statement as T (True), F (False), or NG (Not Given) to the information in the reading comprehension passage.

----1. Enough laws exist to prevent digital crimes.

----2. A bomb killed and injured a few people and destroyed a lot of digital data in the late 20th century.

----3. Computer crimes are not dependent on the increasing important roles of computers.

----4. To make money, a computer expert intentionally creates viruses.

----5. Hackers have multiple reasons to break down a computer system.

----6. Computer ethics is not as important as it has been paid close attention in society.

----7. Most people consider ethics as a personal value based on the passage.

----8. A computer engineer should not be as careful as an architect while designing a system.

Questions ***9-15***: Choose the appropriate letter ***A-C***.

9. Computer users need to follow on the following pieces of advice.

A. They should know different rules and regulations before they start working.

B. They must have knowledge of different IT crimes before committing them.

C. They really do not need to be aware of the IT crimes to be safe.

10. Which one of the following is the most common form of computer crime?

A. Data inventory.

B. Data cleaning.

C. Data diddling.

11. The Salami technique is focused on one of the following techniques.

A. Money was stolen gradually from a system.

B. Money was stolen suddenly from a system.

C. Money was drawn from the bank system legally.

12. One of the following options is NOT the main motivating reason for hackers.

A. Profit

B. Challenge

C. Crime

13. Which one of the following is NOT relevant to the computer ethics?

A. Social impact.

B. Digital effect.

C. Personal stuff.

14. The main role of ethics in information technology is that.....

A. it often focuses on the personal value.

B. it helps the survival of a business or an industry.

C. it is only philosophically important but not economically.

15. What do computer architects and physical architects have in common?

A. They both build something new.

B. They both have similar ethical responsibilities.

C. They design but cannot control geographical and digital attack.

II. Vocabulary activities

Directions: Read each sentence on functions of web search engine stated below. Circle the one word or phrase in parentheses ( ) that has the same meaning as the underlined word in the sentence. Compare your answers with a partner.

1. Hence, computer users all need to <u>be aware of</u> (*ignore/ attend/ remember*) different IT crimes to stay safe from any digital crimes.
2. The federal grand jury in Fort Lauderdale claimed that the <u>defendants</u> (*lawyer/suspect/judge*) modified a computer-billing program to add five extra gallons to the actual gas tank capacity of their vehicles.
3. The <u>thefts</u> (*thief/plaintiff/shoplifter*) ranged from $2 to $15 per customer—rather thick slices of Salami but nonetheless difficult for the victims to detect.

4. Hackers may be motivated by a multitude of reasons, such as profit, protest, or challenge. One of the major motivators for unauthorized access is industrial espionage (*spying/diddling/motivator*).
5. While it is easy to duplicate (*rewrite/respond/copy*) copyrighted electronic (or digital) content, computer ethics would suggest that it is wrong to do so without the author's approval.
6. Computer ethics promotes (*facilitates/destroys/bans*) the discussion of how much influence computers should have in areas such as artificial intelligence and human communication.
7. The ethical issues are not solely (*relatively/virtually/only*) in the use of computer system or software.
8. There are similar codes (*tips/rules/behavior*) of ethics in designing and creating computer systems and computer software.
9. Once a computer engineer is hired (*employed/ requested/ commanded*) to design and build a new system, it is appropriate to build a system within the requirements defined to withstand (*improve/promote/stop*) a computer crack or virus attack.

III. Writing development activities

Directions: Select two of the computer or digital crimes and write down three points of similarities among them that you can think of. From this list, select a point, which you think is the most important. Then, write a topic sentence showing that you will describe these similarities. Work with a partner or in groups and show your topic sentence to your classmates to see if it is suitable for the similarities, which you plan to write about.

Three points:

1.----------

2.----------

3.----------

The most important point is ----------

Topic sentence is
