FROM SPEAKING TO WRITING

Advanced EFL-ESL Essay Lesson

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From Speaking to Writing

Essay Lesson for advanced EFL-ESL students

Topic: Electronic Waste

Warm-Up/Pre-Reading Discussion

1. How many electronic devices (computers, laptops, MP3/4s, cellphones, tablets, games consoles) have you got?
2. What do you usually do with your old electronic devices?
3. Is there a special place to discard them in your town/city?
4. Where do you think all the old electronic devices go?

Topic Vocabulary

Match the words on the left with their meanings:

1. Deluge	a. having a lot of smthg
2. Flush	b. likely to suffer from
3. Unabated	c. weak or easy to hurt
4. Substandard	d. thrown away
5. Extraction	e. flood
6. Vulnerable	f. great or important
7. Laden	g. more money than usual
8. Susceptible	h. becoming old/unusable
9. Staggering	i. unable to be stopped
10. Profound	j. especially surprising
11. Discarded	k. unacceptably bad quality
12. Obsolescence	l. removal

Developing Countries Become Dumps for Electronic Waste

Developing countries are being **deluged** with the electronic waste (e-waste) of wealthy nations as their citizens, **flush** with disposable income, are able to purchase and upgrade their electronic devices at an ever-increasing rate. Experts anticipate the amount of e-waste will rise as much as 500 percent in some countries over the

next ten years as the make-consume-dispose culture continues **unabated**. The receiving countries are facing dire health and environmental threats because of the **substandard** recycling methods used.

Many governments of developing countries are in a dilemma, as they want to import second-hand electronic goods to make technology affordable to their citizens, yet, in reality, most of the used computers, televisions, printers and mobile phones arrive in unusable condition. As a result, these goods make their way to the black market 'recycling' centers, which are often simply open dump sites or backroom workshops.

Theoretically, this e-waste could be an important source of income for poor countries as it is full of precious metals, including gold, silver and copper. Environmental experts estimate that recycling 1 million cell phones can recover about 24 kg of gold, 250 kg of silver, 9 kg of palladium, and more than 9,000 kg of copper. Americans alone dump mobile phones containing over $60 million in gold and silver every year. The recycling methods used in African and Asian countries, however, are typically primitive and as a result the **extraction** of any useful or valuable material exposes recyclers and the environment to toxic substances.

In fact, burning plastic to attain the metals beneath is the most common extraction method. The toxins released include lead, arsenic, cadmium, mercury and flame retardants. Anyone exposed to the smoke is in grave danger of a variety of serious medical conditions, ranging from cancer to kidney and brain disorders to respiratory illnesses. Child workers are especially **vulnerable** when exposed to metal-**laden** dust as their organs are still developing. In addition to risks of illnesses, children are also **susceptible** to developmental and behavioral disorders. The soil and water are also polluted as the poisonous debris seeps into the soil or drains into rivers and seas, so it's not only the recyclers that are affected, but all residents in the area.

The sheer volume of e-waste is **staggering** and illustrates the extent of the problem. Experts estimate that 20-50 million metric tons of e-waste are disposed of worldwide every year. That is approximately the weight of eight of the Great Egyptian pyramids, according to United Nations research. In other words, that waste would fill a 24,000-kilometre line of 40-tonne trucks. That number is expected to grow by 33 percent worldwide in the next few years. At that rate, there won't be enough dump sites and backroom workshops to handle the flow.

The disposal of e-waste is just the end stage of the cycle, but another serious problem starts with its production. The energy needed to manufacture such a huge volume of products is astounding and therefore recovering and reusing the resources would make a **profound** difference in its environmental impact. A UN study found that the manufacturing of one computer and a 17-inch screen takes at least 240 kilograms of fossil fuels, 22 kg of chemicals and 1.5 tonnes of water. An interesting point is that 81% of a desktop computer's total energy use is in manufacturing it , not in using the computer. Recovering the precious metals and other materials from **discarded** electronic devices would need a fraction of the energy required to extract those metals from the earth and produce a new device.

Another factor that influences the volume of e-waste is the ever-shortening life expectancy of electronic devices. Due to technological innovations, new products are being rushed to the market, where an emergent middle class able to afford these devices, snatches them up. The life expectancy of a smart phone is now approximately two years, while flat screen televisions last around four–five years. Planned **obsolescence**, which means 'manufactured for the dump', is also a factor because electronics makers count on shorter life spans to increase sales.

Efforts have been made since the late 1980s to stem the tide of e-waste to developing countries, starting with the Basel Convention. This international treaty has been signed by 150 countries and aims to prohibit the movement of hazardous waste of all kinds from developed countries to undeveloped ones.

After Reading

Discussion Questions:

1. How do you feel after reading this article?
2. How can you change the way you dispose of your old electronic devices?
3. Is there anything else you could change about your own behavior to help reduce e-waste?
4. What can governments of western countries do to stop this kind of pollution?
5. What should governments of developing countries do to stop this kind of pollution?
6. It has been suggested that companies making electronic devices should take on a Product Takeback policy, which means they are responsible for their product even after a customer can no longer use it. Do you think this is feasible?
7. What other changes can electronics companies enact to reduce e-waste?

Write the essay:

E-waste is a growing danger to people in developing countries all over the world. Discuss the problems related to e-waste for both the environment and the people, then offer solutions on how these problems can be solved.

Brainstorming Notes:

Teacher's Notes:

Lesson length: 2 50-minute sessions or 1 90-minute lesson (depending on time allowed for discussion, if the extra material is used and if the essay is to be written in class)

Step 1: Give the four-page handout to students. Discuss the warm-up questions either in small groups or as a whole class. Encourage all the students to participate.

Step 2: Pre-teach the topic vocabulary. The teacher should also pre-read the article to see if any other words might be unknown to students.

Step 3: Have the students read the article. Some prefer to read aloud, while others think reading alone is best.

Step 4: Discuss the questions at length in order to general ideas which students can include in their essay. To help give examples of solutions, make sure to show the additional video.

Step 5: If possible, show the 8-minute video "The Story of Electronics", which describes the path of electronics from manufacturer to consumer to slums like Accra, Ghana in west Africa. https://www.youtube.com/watch?v=sW_7i6T_H78

To make a bigger impression and illustrate the problem in photos, show students the following photographs:

https://www.google.gr/?gfe_rd=cr&ei=yHQrVZO5KIut8we2nYHICQ#q=electronic+waste+photos (any Google search for e-waste photos will give you thousands to choose from)

Essay Plan:

Topic: E-waste is a growing danger to people in developing countries all over the world. Discuss the problems related to e-waste for both the environment and people, then offer solutions on how these problems can be solved.

Introduction: Rewrite the topic in your own words and write a thesis statement, which briefly states two or three aspects of the problem, also mention that solutions can be found.

Body 1: write a topic sentence mentioning the seriousness of the problem as a whole and the two or three aspects of the problem that are particularly serious. Develop each of these aspects with at least two supporting sentences.

a. Dangers to health of residents, particularly children
b. Dangers to the environment from pollution from toxic substances
c. Dilemma of developing countries' need for second hand electronic devices and the problem of western countries exploiting that need to dump their unwanted e-waste

Body 2: write a topic sentence stating that solutions can be found.

Develop the paragraph by giving examples:

a. Protect residents by regulating e-waste recycling
b. Protect the environment by reducing the amount of e-waste allowed into the country
c. Solve the dilemma by providing low cost electronic devices with agreements with philanthropic organizations

Conclusion: restate your thesis statement in different words and give an optimistic prediction for the future if these solutions are carried out by governments and consumers.