

GENERAL INFORMATION:

Teacher's name: Diana Sofia Martell Subject: English Class

Grade: intermedia Level Topic: How does the brain Multitask?

Date: _____

INSTRUCTIONS: Read the article about how does the brain works and complete the questions below the reading.

Before you read: Think of three examples of multitasking from your daily life. Which situation is the easiest for you, and why?



How does the brain Multitask?

1 In a university library, a student is writing an essay on his laptop. But that's not all. He's also reading instant messages online, listening to his music with headphones, and checking text messages on his cell phone. He is the picture of high-tech multitasking. In today world, people use a wide variety of electronic media to multitask, doing several things at the same time. Neuroscientists are studying the brain to see what happens during multitasking and to see if multitasking affects the quality of what we do.

2 Using Magnetic Resonance Imaging (MRI) to view the brain in action, scientists have found that when people do tasks that require concentration, multitasking takes place in the prefrontal cortex. Data shows that the prefrontal cortex, located in the front of the brain, is the area for problem solving, decision making, planning, and emotions.

3 In a multitasking study conducted by French scientists Etienne Koechlin and Sylvain Charron, people were given one task requiring concentration (Sorting letters and shapes). Brain images showed that both the left and right prefrontal cortex were active as people worked. However, when they gave a person a second task to do at the same time, the left prefrontal cortex took one task, and the right took the other. When doing two tasks, MRI images showed that the brain was rapidly switching between the first and the second task. The brain was not working on both tasks at the same time. These experiments, and

it returns to the first task, it must restart the task, using working memory. Because working memory declines with age, older people do not multitask as well as teenagers and young adults. Young children also do not multitask well because their working memory is not fully developed.

5 Although we think we are getting more done when we multitask, evidence shows that we do not. Researchers have found that people take longer to complete tasks and make more mistakes. Furthermore, doing more tasks seems to result in less efficiency. When the French researchers expanded their experiment to include three tasks, surprisingly, the brain seemed to completely drop one task and only focus on two tasks. The French team concluded that the brain could not focus on more than two tasks at a time. Perhaps there is a limit to how much information the brain can temporarily store in working memory.

6 More experiments are needed to see how multitasking works in different real-life situations. Students multitask as they study, office workers constantly check e-mail while they work, and drivers talk on the phone or text. Of course, certain tasks such as listening to music do not require as much concentration as others. Data shows that studying while listening to music without lyrics usually does not affect performance. Some daily tasks such as driving, cooking, or washing dishes, become almost

others like them, show that the brain is not paying attention to two tasks simultaneously. When multitasking, the brain is concentrating on one task and then switching to the other, in sequence.

4 In order to switch attention from one task to another, the brain must use its working memory. This is the brain's ability to temporarily hold information while it does something else. When you multitask, you "leave" a task that is not finished. It's as if you are reading a book and your brain put in a bookmark when you leave the task. The first task is stored in your working memory. Your brain goes to the second task, but when

automatic with practice, requiring less concentration. However, when a driver is multitasking, the seconds lost when mentally switching tasks can result in an accident.

7 Researchers have shown that when we multitask, we are not really getting more done because we are losing speed and accuracy as we quickly switch from task to task. Experts say that for a task that requires your concentration, it's better to just focus on that one task until you are done. The challenge in today's world of 24/7 connection to electronic media is how to control our desire to do many things at once.

After reading

1. Developing critical thinking

Do you think that you are less accurate when you are multitasking? Why or why not?

When do you think it is a bad idea to multitask? Explain your answer?

1.1 Keep in mind the idea from how does the brain multitasking?

Do you think is reliable this research? Why?

What kinds of technology make it easy for individuals to multitask?

Are you multitask? Explain your answer?

According to the experiments, how does multitasking affect your work?

Why it is sometimes possible to multitask efficiently while cooking or washing dishes.

1.3 Global reading

Skim how does the brain multitask? In a minute. Write T(True) or F(False).

1. The topic of this reading is the internet _____
2. The article gives information about current research on multitasking _____
3. The article gives information about how to improve your study skill _____
4. The main idea of the reading is that when you multitask, you make more mistakes _____

Vocabulary skill

Collocations: **VERB + NOUN**

A collocation is a pair of words that are commonly found together. When you learn a word, make a note of the words that are usually found with it. Look these verbs that are commonly found in academic English and the nouns they frequently collocated with:

Adopt + position, attitude, style, process, measure, method, lifestyle, policy, child, approach, method.

Address + problem, issue, topic, question, audience, class, person, letter.

Analyze + facts, data, information, evidence, results, samples.

Conduct + audit, experiment, inquiry, inspection, interview, investigation, search, study, survey, review, test.

Now, complete the sentences with the correct form of a verb from the vocabulary skill box. More than one answer may be possible.

1. The students _____ some research into memory and _____ the results.
2. Last week, police _____ a full inquiry into the accident and _____ the evidence.
3. The head teacher _____ a serious tone when he _____ the question of cheating.
4. When the chemists _____ the research finding, they discovered that the initial experiment had not been _____ under controlled conditions.
5. For our final exam, we will have to _____ the lab results from two different studies.
6. Let's _____ the real problem here. I think you are _____ an unnecessarily aggressive attitude.

Complete the sentences using a noun from the Vocabulary skill box.

1. There was a newspaper article in yesterday's paper which analyzed_____.
2. In the chemistry lab, students conducted_____.
3. Yesterday, my manager conducted_____.
4. In my research paper, I aim to analyzed_____.
5. In order to find out students' opinion about this issue, we'll conduct_____.
6. The government has adopted_____.
7. Next Wednesday, the history professor will address_____.