

## READING

Read the article and check (✓) A, B, or C.

### A STUDY OF MULTITASKING

Technology increasingly makes it possible for people to do more than one task at a time, for example moving between browsing the Web and using other computer programs, talking on cell phones while driving, or flying a jet and monitoring air traffic. Indeed, the word describing this – “multitasking” – has gone from being invented to being commonly used in everyday life in a remarkably short time. A recent study has looked at whether multitasking is purely beneficial or has its downside, especially when the tasks being done together are complicated ones.

The researchers concluded that when people are multitasking, they are using what they call “executive control” processes. These processes concern different parts of the brain and involve the brain allocating different mental resources to different tasks and deciding which tasks are more important than others. The brain’s executive control gives the appropriate resources to the different aspects of tasks, such as understanding what the task requires, thinking about what to do, and taking action.

The researchers conducted an experiment into how much time was lost when people repeatedly switched between two tasks. The tasks varied in terms of how complex they were and how familiar the subjects were with doing those tasks, and they included such things as solving mathematical problems and classifying geometric objects. The researchers measured how long it took the subjects to carry out the tasks and considered the speed in connection with whether the tasks were familiar or unfamiliar, and whether the rules for doing them were simple or complicated.

The results of the experiments were the same for every kind of task. In each case, the subjects lost time when they moved from one task to another, and the amount of time they lost increased when the tasks were complex or unfamiliar. When they were familiar with a task, they were able to adapt to changing to it and get on with it much more quickly. The researchers say that these results indicate that the brain’s executive control consists of two separate stages. They called the first stage “goal shifting,” meaning a preference to do one of the tasks rather than the other at a particular moment. The second stage they named “rule activation,” meaning moving from engaging with the rules associated with how to go about one task to engaging with the rules involved in doing the other task. The second stage, rule activation, takes a significant amount of time, and this delay multiplies when people keep switching between tasks. The result is that quite a lot of time is lost when multitasking, in comparison with the time that would be taken if each task was completed separately.

This has major implications for multitasking, suggesting that although people may think that it saves time without affecting efficiency, in reality it actually takes more time, and this may have an adverse effect on efficiency. In the case of someone using a cell phone while driving, multitasking could mean that they are not in full control of their vehicle during the short period when they are switching to using the phone.

The researchers feel that their research has important consequences for multitasking. Their conclusions regarding executive control and how it works may, they believe, help people to look for strategies that will enable them to operate in the most efficient way possible when they are multitasking. And an understanding of executive mental control could have an impact on the design of the technology involved in such areas as operating aircraft and air traffic control,

as well as other activities where the interface between humans and computers is crucial to efficiency.

In addition, there are other possible applications of this research. Understanding how people function while multitasking could assist with recruitment, training, and assessment of personnel in the workplace. It could also have an influence on government and industrial regulations, assist in the diagnosis and treatment of brain-damaged patients, and increase our general understanding of how the brain works.

- 1 What does the writer suggest about the word “multitasking?”  
A Its increased use reflects a change in everyday life. ☐  
B It is not always used appropriately. ☐  
C It has changed in meaning since it was invented. ☐
- 2 The aim of the research was to \_\_\_\_\_.  
A compare the advantages and disadvantages of multitasking ☐  
B discover why multitasking is regarded a wholly good thing ☐  
C find out if there are any negative effects of multitasking ☐
- 3 The researchers use the term “executive control” to describe how the brain \_\_\_\_\_.  
A controls some actions more than others ☐  
B organizes how different tasks are carried out ☐  
C distinguishes between easier and harder tasks ☐
- 4 What do we learn about the experiment?  
A The researchers knew that some of the subjects had done similar tasks before. ☐  
B Not all of the subjects did the same tasks. ☐  
C The subjects started with simple tasks and move on to more complicated ones. ☐
- 5 Which of the following happened during the experiment?  
A Some subjects always found it hard to move from one task to another. ☐  
B Sometimes little time was lost moving from one task to another. ☐  
C Complex tasks presented more problems than unfamiliar tasks. ☐
- 6 One of the two stages of the brain’s executive control \_\_\_\_\_.  
A leads to a major disadvantage of multitasking ☐  
B takes longer for some people than for others ☐  
C has no connection with multitasking ☐
- 7 One of the implications of the research is that \_\_\_\_\_.  
A some people are not suited to multitasking ☐  
B a common attitude to multitasking is wrong ☐  
C multitasking always results in less efficiency ☐
- 8 The researchers believe that their research might \_\_\_\_\_.  
A encourage people not to do multitasking in some situations ☐  
B affect the way that people approach multitasking ☐  
C result in technology replacing people for certain tasks ☐
- 9 In the final paragraph, the writer says that multitasking is something that \_\_\_\_\_.  
A is likely to increase in the future ☐



B people in authority have paid too little attention to ☐

C is relevant in many areas of life ☐

10 What is the main topic of the text?

A The growth of multitasking ☐

B How complicated the brain's processes for multitasking are ☐

C The relationship between multitasking and efficiency ☐