

第7問 (配点 16)

You prepared a presentation with a discussion question for your science class using the following passage.

Mind-Wandering: Lost in Thought

Rodin's sculpture *The Thinker* represents a man absorbed in thought. People may wonder if he is thinking about life's deep questions. Likewise, teachers may wonder what students sitting at their desks are thinking about—are they focusing on their schoolwork, or are they just daydreaming?

It is natural for the mind to switch between periods of focus and periods of rest. Even when we are supposed to be concentrating, we may not be paying attention to the task at hand. Scientists have found that we engage in daydreaming, also known as “mind-wandering,” approximately 50% of the time we are awake. While our minds are wandering, we are not thinking about anything special but our brains naturally come up with ideas, images, and emotions. In short, mind-wandering is a shift away from thoughts on the current task to other unrelated thoughts.

Our understanding about mind-wandering has grown over time. Past studies argued that mind-wandering was not merely a waste of time but actually quite harmful. Mind-wandering was found to negatively influence our mood, leading to work-related mistakes, traffic accidents, and even mental conditions such as depression. New research, however, shows that mind-wandering also has positive effects which can enrich our lives in various ways.

One such effect is that mind-wandering helps us generate creative ideas. In fact, some of our best ideas become apparent when our minds are wandering. To access these ideas, however, our brains sometimes require a period of time, just like eggs need time to hatch. This is called the “incubation

period.” This interval away from the problem is critical because during that time our brains are unconsciously sorting through pieces of information and associating them with the problem. This enables us to come up with a fresh solution, which appears when we least expect it, for example, when we are on a walk or taking a shower.

What is really going on in the brain when the mind wanders? Previously, the brain was thought to be in a passive state at this time. However, through neuroimaging research conducted in 2001 in the US, more than a dozen regions of the brain were found to be active during mind-wandering. These regions, as a whole, were named the Default Mode Network (DMN). Moreover, according to a study conducted in 2022 by researchers based in Norway and the Netherlands, the DMN was more active when participants were performing a low-effort task compared to a high-effort task.

How can we make use of new discoveries in brain science and increase the number of unique benefits that mind-wandering has to offer? Here are four tips to help expand your mind. First, make time for simple activities such as doing the dishes or taking a warm bath. When involved with these undemanding tasks, our mind is free to wander around. Next, we can just go outside. For example, when we are in a forest, we are able to relax in nature and our mind can more easily spread out in all directions. Another suggestion is to get enough quality sleep each night. This will not only improve our mood, but enable the brain to be more receptive to new ideas. Finally, when we wake up in the morning, we should try to notice any thoughts that occur before we get out of bed. In this half-sleep state, our mind tends to wander and our ideas can flow more freely.

We will not always be able to control all of our thoughts. However, if we are aware of when and how mind-wandering happens, we may be able to take advantage of its seemingly random nature.

Slide drafts

Mind-Wandering



1

The Occurrence of Mind-Wandering

It happens 32 .

2

Possible Effects of Mind-Wandering

- It 33 .
- It 34 .

3

What Happens During the Incubation Period?

35

4

A Finding From Neuroimaging Research

36

5

Discussion

Talk about your lifestyle.

How likely are you to benefit from
mind-wandering?

6

問 1 Choose the best option for 32.

- ① in about half of the time we are daydreaming
- ② in the nightmares we experience during sleep
- ③ when our focus is away from the ongoing activity
- ④ while we are concentrating on the present task

問 2 Choose the best options for 33 and 34. (The order does not matter.)

- ① affects our mental health
- ② decreases errors at work
- ③ enhances our memory
- ④ gives us novel ideas
- ⑤ improves our driving skill

問 3 Choose the best option for 35.

- ① Complicated problems enter our consciousness.
- ② Our brains organize information in new ways.
- ③ Our moods are altered from negative to positive.
- ④ The mind moves from an active to a passive state.

問 4 Choose the best option for 36.

- ① The brain has multiple areas working while the mind is wandering.
- ② The brain's DMN is only activated when we perform high-effort tasks.
- ③ The entire brain is inactive when we are working on low-effort tasks.
- ④ The state of the brain remains passive during mind-wandering.

問 5 In the discussion session about lifestyles, some students' habits and routines were shared on the screen. Choose the two students who are most likely to gain the benefits of mind-wandering based on the tips mentioned in the passage. 37

I'm a book lover. I'll read anything to expand my mind. I often stay up late to finish another chapter. I drink a lot of green tea to help me stay awake.

-Ami

I like to keep active and do some sort of exercise. I usually go cycling along the riverbank before school. I also like hiking around the countryside on holidays.

-Barry

I'm extremely focused on my schoolwork during the week. So busy! On the weekends I need a break, so I visit my local hot springs to forget about everything.

-Chihiro

I want to be a cooking influencer. I post new recipes to my account almost daily. I check my phone to respond to my followers right after waking up in the morning.

-Dean

- ① Ami and Barry
- ② Ami and Chihiro
- ③ Ami and Dean
- ④ Barry and Chihiro
- ⑤ Barry and Dean
- ⑥ Chihiro and Dean