Sleep: The Secret Ingredient in Learning

From the desk of Jenni Foley, Deputy Head (Academic)

Why a good night's sleep will do more for your child's learning than another hour at the desk

It was the week before end-of-term examinations when an email arrived from a senior high school student living in our boarding house. Let's call her Student Z.

She was polite, thoughtful and clearly determined to do well. She had a carefully reasoned proposal: could her bedtime be moved from 11 pm to midnight? An extra hour each evening, she explained, would give her more time to revise. She understood that sleep was important, but with examinations approaching, she felt that one more hour at her desk might make all the difference.

I could understand her thinking. When the pressure is on, studying for longer can feel like the responsible choice. Every additional page revised or fact memorised seems to bring success a little closer.

But Student Z's request revealed a troubling misconception: that sleep was time taken away from learning, rather than part of the process itself. She was prepared to sacrifice the very thing that would help her brain make the most of her hard work.

As parents and educators, we spend considerable time encouraging young people to study, practise and persevere. Perhaps we need to give equal attention to what happens when they finally put their books away.

A nation that needs more sleep

Japan has consistently ranked among the countries with the shortest average sleep duration in OECD comparisons. Research in Japan also highlights insufficient sleep among school-aged children.

In March 2025, RIKEN and university research partners reported findings from their *Children's Sleep Health Check* project, involving approximately 13,500 children across 142 schools. Many children were not meeting recommended sleep durations, while some older students experienced substantial differences between weekday and weekend sleep patterns — a phenomenon known as *social jet lag*.

Japan's Ministry of Health, Labour and Welfare recommends 9–12 hours of sleep for primary school-aged children and 8–10 hours for junior and senior high school students. For students balancing schoolwork, examinations and extracurricular commitments, protecting sufficient sleep is an essential part of supporting their health and learning.

Sleep is when the brain gets to work

Sleep is not simply a period when the brain switches off. It supports the processes involved in memory, learning and emotional regulation. Learning requires the brain to encode new information, stabilise it and connect it to existing knowledge. Sleep plays a vital role in these processes.

1. Sleep prepares the brain to learn

After a poor night's sleep, students struggle to concentrate, follow explanations and absorb new information. This is not necessarily a lack of effort. A landmark 2007 study published in *Nature Neuroscience* found that sleep deprivation reduced activity in the hippocampus, a brain region essential for forming new memories. Participants also performed less well on subsequent memory tests.

2. Sleep helps memories stick

Sleep matters not only before learning but also afterwards. Research dating back to 1924, followed by decades of further studies, has demonstrated the importance of sleep in retaining newly learned information. During sleep, the brain reprocesses and consolidates memories, helping integrate new information with existing knowledge. Different stages of sleep contribute to different aspects of this process.

3. Sleep helps us connect ideas

Learning involves much more than remembering facts. Students must recognise patterns, evaluate arguments, solve problems and apply knowledge in unfamiliar situations.

Sleep supports the integration of new memories with existing knowledge. Research suggests this can help with insight and problem-solving, although the effects vary according to the task. Understanding a complex historical argument or developing an original interpretation of a literary text requires flexible thinking, not simply memorisation. Sleep provides an important foundation for this work.

What should we tell Student Z?

We should acknowledge her ambition while helping her understand that an extra hour at her desk is not necessarily an extra hour of effective learning.

If moving bedtime from 11 pm to midnight regularly reduces her sleep below the recommended amount, she may be compromising the concentration, memory and clear thinking she needs to succeed. She may also be compromising her immune-system and her ability to emotionally regulate.

Instead, students can make study time more effective through retrieval practice, spaced revision and practising how to apply knowledge.

Sleep is not a reward to be earned after the work is finished. It is part of the work!

Five ways parents and boarding houses help

- **Protect sleep time.** Teenagers aged 13–18 need 8–10 hours each night, while children aged 6–12 need 9–12 hours.
- **Keep routines consistent.** Regular bedtimes and wake-up times support healthy sleep patterns.
- **Create time to wind down.** Reduce stimulating activities and screen use before bed, particularly when these delay sleep.
- **Plan revision realistically.** Encourage retrieval practice and spaced revision rather than late-night cramming.
- **Notice persistent difficulties.** Ongoing sleep problems or significant daytime tiredness may warrant advice from a healthcare professional.

Student Z's request reflected a familiar belief: that doing more must lead to better results. Yet learning depends not simply on the hours invested but on how effectively the brain can absorb, retain and apply information.

We cannot learn without effort during our waking hours. But we can not underestimate what happens after we close our books and turn out the light. Sometimes, the most productive advice we can give a diligent student is not to study for longer.

It is to go to bed!