You’ll Never Learn!

Students can’t resist multitasking, and it’s impairing their memory.

By Annie Murphy Paul

Living rooms, dens, kitchens, and even bedrooms: Investigators followed students into the spaces where homework gets done. Pens poised over their “study observation forms,” the observers watched intently as the students—in middle school, high school, and college, 263 in all—opened their books and turned on their computers.

For a quarter of an hour, the investigators from the lab of Larry Rosen, a psychology professor at California State University–Dominguez Hills, marked down once a minute what the students were doing as they studied. A checklist on the form included: reading a book, writing on paper, typing on the computer—and also using email, looking at Facebook, engaging in instant messaging, texting, talking on the phone, watching television, listening to music, surfing the Web. Sitting unobtrusively at the back of the room, the observers counted the number of windows open on the students’ screens and noted whether the students were wearing earbuds.

Although the students had been told at the outset that they should “study something important, including homework, an upcoming examination or project, or reading a book for a course,” it wasn’t long before their attention drifted: Students’ “on-task behavior” started declining around the two-minute mark as they began responding to arriving texts or checking their Facebook feeds. By the time the 15 minutes were up, they had spent only about 65 percent of the observation period actually doing their schoolwork.

“We were amazed at how frequently they multitasked, even though they knew someone was watching,” Rosen says. “It really seems that they could not go for 15 minutes without engaging their devices,” adding, “It was kind of scary, actually.”

Concern about young people’s use of technology is nothing new, of course. But Rosen’s study, published in the May issue of Computers in Human Behavior, is part of a growing body of research focused on a very particular use of technology: media multitasking while learning. Attending to multiple streams of information and entertainment while studying, doing homework, or even sitting in class has become common behavior among young people—so common that many of them rarely write a paper or complete a problem set any other way.

But evidence from psychology, cognitive science, and neuroscience suggests that when students multitask while doing schoolwork, their learning is far spottier and shallower than if the work had their full attention. They understand and remember less, and they have greater difficulty transferring their learning to new contexts. So detrimental is this practice that some researchers are proposing that a new prerequisite for academic and even professional success—the new marshmallow test* of self-discipline—is the ability to resist a blinking inbox or a buzzing phone.

*Note – the “marshmallow test” - The premise is simple: You can eat one marshmallow now or, if you can wait, you get to eat two marshmallows later. It is a test of self-discipline and delayed gratification.

Article from:
http://www.slate.com/articles/health_and_science/science/2013/05/multitasking_while_studying_divided_attention_and_technological_gadgets.html
Music and Memory Pre-Lab

Instructions: Answer the following questions in order to be ready to start the experimentation portion of the lab.

1. After reading the article, what is the author communicating about electronics and important learning tasks?

2. Using the science dictionary link on flippedoutscience.com, define these vocabulary terms so that you understand more when you research and experiment:

- Memory –
- Retention –
- Short term memory –
- Long term memory –

3. Check out the pre-lab resource links on flippedoutscience.com to learn how music affects concentration.

Write 3-4 sentences explaining the relationship between music and the brain:

4. Are there any safety concerns in this lab, and if so, how do you plan to complete the lab in a safe manner?