

You'll Never Learn!

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

By *Annie Murphy Paul* May 2013 Slate Magazine

Attending to multiple streams of information and entertainment while studying, doing homework, or even sitting in class has become common behavior among young people. Living rooms, dens, kitchens, 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 2013 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.

The media multitasking habit starts early. In “**Generation M: Media in the Lives of 8- to 18-Year-Olds**,” a survey conducted by the Kaiser Family Foundation and published in 2010, almost

a third of those surveyed said that when they were doing homework, “most of the time” they were also watching TV, texting, listening to music, or using some other medium. The lead author of the study was Victoria Rideout, then a vice president at Kaiser and now an independent research and policy consultant. Although the study looked at all aspects of kids’ media use, Rideout told me she was particularly troubled by its findings regarding media multitasking while doing schoolwork. “This is a concern we should have distinct from worrying about how much kids are online or how much kids are media multitasking overall. It’s multitasking while learning that has the biggest potential downside,” she says. “I don’t care if a kid wants to tweet while she’s watching *American Idol*, or have music on while he plays a video game. But when students are doing serious work with their minds, they have to have focus.”

For older students, the media multitasking habit extends into the classroom. While most middle and high school students don’t have the opportunity to text, email, and surf the Internet during class, studies show the practice is nearly universal among students in college and professional school. **One large survey found** that 80 percent of college students admit to texting during class; 15 percent say they send 11 or more texts in a single class period.

During the first meeting of his courses, Rosen makes a practice of calling on a student who is busy with his phone. “I ask him, ‘What was on the slide I just showed to the class?’ The student always pulls a blank,” Rosen reports. “Young people have a wildly inflated idea of how many things they can attend to at once, and this demonstration helps drive the point home: If you’re paying attention to your phone, you’re not paying attention to what’s going on in class.” Other professors have taken a more surreptitious approach, installing electronic spyware or planting human observers to record whether students are taking notes on their laptops or using them for other, unauthorized purposes.

Such steps may seem excessive, even paranoid: After all, isn’t technology increasingly becoming an intentional part of classroom activities and homework assignments? Educators are using social media sites like Facebook and Twitter as well as social sites created just for schools, such as Edmodo, to communicate with students, take class polls, assign homework, and have students collaborate on projects. But researchers are concerned about the use of laptops, tablets, cellphones, and other technology for purposes quite apart from schoolwork. Now that these devices have been admitted into classrooms and study spaces, it has proven difficult to police the line between their approved and illicit uses by students.

http://www.slate.com/articles/health_and_science/science/2013/05/multitasking_while_studying_divided_attention_and_technological_gadgets.html