

Multitasking and Legal Writing

By Anne Enquist¹

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One simple truth about lawyers, law students, and really everyone who uses technology these days is that we have all become multitaskers. We are on LexisNexis® or Westlaw® doing research with the TV tuned to the latest reality show in the background. We are struggling to organize our ideas into an outline, all while our favorite recording artist sings via earbud and MP3 player into our ears. We are drafting a memo to a senior partner when our cell phone chirps—we have a new text message. We are writing a brief to the court and those little boxes with new e-mails pop up at the bottom of our computer screen, begging for our attention. And on top of all these techno competitors for our attention, we may be instant messaging with a few friends and checking out what they are doing on Facebook or saying on Twitter.

Is this smart? Is this efficient? Like so much else in law and law school, the answer is “it depends.” For most of us, multitasking has become a habit (some say an addiction), but if we stop and take a little time to think about multitasking and how it works with our brains, we can figure out when the habit is helpful and when it undermines our productivity and effectiveness.

Recently there has been a fair amount of research about multitasking and its effect on various cognitive processes. The multitasking research builds on earlier research about the human brain, which showed that the typical brain has an estimated processing capacity of 126 bits per second

and a short-term memory of seven items at once.² Those biological facts haven’t changed. Brain researchers tell us that it does not matter how much information from various sources hits our brain at a time; there is a limit to what we can process simultaneously.

The multitasking research makes a second important point, which is that there is a difference between *parallel processing*, which is when a person tries to do more than one thing at a time, and *task switching*, which is toggling between mental tasks.

In parallel processing, a person does two or more things simultaneously, but only one of the tasks requires a high degree of cognition and attention. The other task or tasks are usually routine, highly practiced skills, or motor skills that can be done almost without thinking. A good example of parallel processing is reading a case while eating a sandwich or while riding an exercise bike. The brain focuses on reading the case, and the other tasks are completed more or less on autopilot.

According to the research, parallel processing may increase efficiency. You can do two or more things at once if only one of them requires your attention.

In contrast, a good example of task switching is reading a case while responding to e-mail or instant messages. Because both tasks require mental attention and focus, the brain cannot do them simultaneously. Instead, it switches back and forth.

Not surprisingly, then, task switching decreases efficiency.³ Each time a person switches his or her

² Urs Gasser & John Palfrey, *Mastering Multitasking*, 66 *Educ. Leadership* 14, 15 (2009), citing G.A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity to Process Information*, 63 *Psychol. Rev.* 81 (1956).

³ The only efficiency advantage to task switching that the research has noted is that some students who find studying boring will stick with it longer if they have the pleasant distraction of social interventions (instant messaging, text messages, e-mail) to keep them motivated. Note, however, that the added time studying in this scenario may not mean more is learned because task switching itself adds to the total time required.

¹ The material in this article will also appear in the fifth edition of *The Legal Writing Handbook* by Laurel Currie Oates and Anne M. Enquist, which is due out in spring 2010.

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attention from one mental task to another, the brain must activate different neural circuits.⁴

Unfortunately, time is lost at every step. Initially, the brain is focused on Task #1. Task #2 interrupts; now the brain must make a judgment call about which task to focus on. Researchers call this the “response selection bottleneck,” which is another way of saying time is lost as the brain decides which task to perform. If the brain switches to Task #2, this switch involves different circuits; once Task #2 is complete, the brain must switch back to Task #1, trying to remember where it left off. And all of this assumes a disciplined task switch and not that Task #2 completely diverted the person to a third, fourth, or fifth distraction.

So, despite the myth that multitaskers are somehow highly efficient and productive, study after study shows that task switching significantly increases the total amount of time needed to finish each task, sometimes even doubling the total time. In short, the harsh truth is that multitaskers are deceiving themselves when they believe they are accomplishing more by multitasking. Task switching slows you down.

Perhaps the more important points about task switching, though, are not the ones about decreased efficiency. There are also serious questions being asked by brain researchers about (1) the increase in errors caused by multitasking and (2) how task switching affects a person’s “cognitive style.” In other words, when we are constantly juggling different mental tasks, do we make more mistakes and are we conditioning our brains to work less effectively?

⁴ The switching of attention from one task to another—toggling—occurs in a region right behind the forehead called Brodmann’s Area 10 in the brain’s anterior prefrontal cortex, according to a functional magnetic resonance imaging (fMRI) study by Jordan Grafman’s team, chief of the cognitive neuroscience section at the National Institute of Neurological Disorders and Stroke, Bethesda, Md. Ingrid Wickelgren, *System Overload*, 92 *Current Sci.* 4, 5 (2006); Claudia Wallis, *The Multitasking Generation*, 167 *Time* 48, 52 (2006); see Etienne Koechlin et al., *The Role of the Anterior Prefrontal Cortex in Human Cognition*, 399 *Nature* 148 (1999). Activity in an area of the brain shows up on MRI as increased flow of blood to this area.

Research has confirmed the increase in errors in many areas, such as in the number of accidents that occur when someone talks on the phone or sends a text message while driving. While no one has yet studied lawyers, it is reasonable to assume that lawyers who engage in multitasking might make more errors than lawyers who do not. For example, a lawyer who answers the phone while reading a draft of a contract might be more likely to overlook an important provision than the lawyer who gives the contract his or her undivided attention.

As to the second point about how multitaskers are conditioning their brains, the studies that have focused on how multitasking affects cognitive style should raise concerns for lawyers and law students who want to enhance, not diminish, their capacity to do in-depth thinking and sophisticated legal work. For example, a study by Levine, Waite, and Bowman showed that “the amount of time that young people spent IMing was significantly related to higher ratings of distractibility for academic tasks. . . .”⁵ Not surprisingly, the same study showed that the amount of time spent reading books was negatively related to distractibility. Another 2005 study concluded that “Workers distracted by e-mail and phone calls suffer a fall in IQ more than twice that found in marijuana smokers.”⁶ Donald Roberts, a Stanford professor of communications commenting on the Kaiser Family Foundation 2005 survey of Americans, says that “habitual multitasking may condition their brain to an overexcited state, making it difficult to focus even when they want to.”⁷ Roberts notes that Stanford students “can’t go the few minutes between . . . classes without talking on their cell phones. . . . [T]here’s almost a discomfort with not being stimulated—a kind of ‘I can’t stand the silence.’”⁸

⁵ Laura E. Levine et al., *Electronic Media Use, Reading, and Academic Distractibility in College Youth*, 10 *CyberPsychology & Behav.* 560, 560 (2007).

⁶ Christine Rosen, *The Myth of Multitasking*, 20 *New Atlantis* 105, 106 (2008).

⁷ Wallis, *supra* note 4, at 54, *quoted in* Levine et al., *supra* note 5, at 561; see Victoria Rideout et al., *Generation M: Media in the Lives of 8–18 Year Olds* (Kaiser Family Foundation 2005).

⁸ Wallis, *supra* note 4, at 52.

Another researcher, David E. Meyer, director of the Brain, Cognition and Action Laboratory at the University of Michigan, agrees. His research suggests that habitual multitaskers “lose the skill and the will to maintain concentration. . . . [T]hey get mental antsiness.”⁹

While more research needs to be done on how multitasking and specifically task switching affects a person’s cognitive style, the early findings suggest that habitual uncontrolled multitasking, especially in the form of task switching, can lead to what we might regard as a self-induced form of attention deficit disorder. Acquiring such a cognitive style would undoubtedly hamper the kind of in-depth thought and sophisticated analysis lawyers need to do.

Unfortunately, that is not all the bad news about multitasking and task switching. A related area of concern being explored by brain researchers is *how* task switching affects how we learn, specifically where in the brain we store new learning and how that affects our ability to use what we learned. One study showed that students could learn new information while distracted by a second task, but the distraction decreased the degree to which the participants used declarative memory (which relies on a medial temporal lobe system), as opposed to habit learning (which relies on the striatum).¹⁰ Both types of memory systems support learning, but learning stored in the habit learning areas of the brain is “less flexible and more specialized, so you cannot retrieve the information as easily.”¹¹ Declarative memory is more flexible, so knowledge stored there (which is what happens when one

studies in a focused, uninterrupted way) is more useful and transferable to new situations.

So what do we do with all this new information about multitasking, and how do we use it to ensure that our legal research, analysis, and writing processes are efficient and effective?

First, we have to be realistic. Most of us are unlikely to give up our multitasking habit completely. Instead, the better approach may be to use the research findings to shape and manage our multitasking habit to our best advantage. If we know, for example, that some forms of parallel processing work for us, such as experiencing the calming effect of listening to background music while we research online, then we should continue to use those forms of multitasking. If, on the other hand, we suspect that our task switching habits are making us inefficient or distracted or more prone to make mistakes, we should consider monitoring our task switching to determine how best to reshape those habits so that we can be more effective.

How are a few ideas you may want to consider as you think about how to develop effective research, analysis, and writing processes.

1. Be intentional about your own attention:
 - cultivate the art of paying attention
 - monitor your ability to shift attention
 - exercise judgment about what is worthy of your attention
2. Consider adopting some simple strategies for managing distractions and maintaining focus:
 - when you know you need to focus, close your e-mail or turn off the e-mail alert function, close the instant message window, turn off the Internet, close your laptop, and turn off your phone
 - to avoid other distractions coming over your computer, print out online materials before reading them
 - limit the number of Web sites you visit
 - create stronger divisions between your “work time” and your “social time”

“ [H]abitual uncontrolled multitasking, especially in the form of task switching, can lead to what we might regard as a self-induced form of attention deficit disorder. ”

⁹ Meyers is somewhat optimistic that the human brain can learn to task switch more effectively, but his research uncovers still another negative finding: Multitasking contributes to the release of stress hormones and adrenaline, which can cause long-term health problems if not controlled, and contribute to loss of short-term memory. *Id.* at 54.

¹⁰ Karin Foerde et al., *Modulation of Competing Memory Systems by Distraction*, 103 *Proceedings of the Nat’l Acad. of Sci. of the U.S.* 11778 (2006).

¹¹ Rosen, *supra* note 6, at 107, quoting Professor Russell Poldrack, UCLA.

“Sir Isaac Newton, for example, attributed his genius ‘to patient attention more than any other skill.’”

3. Recognize that your readers may also be multitaskers suffering from information overload and, when appropriate, adapt your written communications to them accordingly:
 - simplify messages
 - shorten messages
 - use “reply all” with care

Finally, we may want to consider the virtues of “single tasking.” We know that geniuses in many fields are often known for their ability to focus their attention in order to acquire a deep understanding of a problem or issue. Sir Isaac Newton, for example, attributed his genius “to patient attention more than any other skill.” Rather than secretly congratulating ourselves when we try to do three things at once, perhaps we should pat ourselves on the back when we, at least occasionally, make one important person, project, or legal problem the sole focus of our attention.

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Another **Perspective**

“The law is the foundation upon which all arguments are built; legal research requires finding the foundation for those arguments. In the ever growing movement to integrate ‘skills and values’ across the curriculum, a critical component to this curriculum redesign is research instruction. Research serves as the fulcrum upon which ‘skills and values,’ such as ethics and practical application of doctrinal studies, rests.

And for the most part, other courses in the law school curriculum omit discussion of research skills. ‘No research’ is the norm because the students purchase casebooks that already contain the cases the students will be assigned to read, exams for the most part are closed book (and if they are open-book, the students are using the casebook, rule book, outlines, or other notes, and not researching in terms of searching the library), and the bar examination is closed book, even for the states that have the multistate performance test exam (MPT). Legal education is ‘no research’ education because “‘a first-year law student [can] navigate through the common law courses that make up the first year of law school without doing any real research at all.’” ...

Given the ‘no research’ environment of legal education, the road of research instruction, which begins in the first-year legal research and writing courses, must continue across the curriculum in order for the research skills learned by students in the first year to be further developed, refined, and reinforced, and in order to adequately prepare law students for their future careers as attorneys. Building the road of research instruction across the curriculum will bridge the gap between the ‘no research’ environment of law school education and the ‘research environment’ of real world legal practice.”

—Brooke J. Bowman, *Researching Across the Curriculum: The Road Must Continue Beyond the First Year*, 61 Okla. L. Rev. 503, 504–508 (2008).