



# The Writer's Brain

## What Neurology Tells Us About Teaching Writing



### Why Do They Do That?

Why do students wait until the last minute to start a writing project?

Why are they content to turn in such poor drafts?

Why do they ignore suggestions for revisions and refuse to acknowledge that good writing is not merely a matter of opinion?

Why, after we've given them so many techniques for prewriting and generating material, do they waste so much time staring at the blank screen?

Why do they distract themselves with surfing the net, computer games, socializing, watching TV and so many other activities when they should focus on the assignments that determine their grades?

Why are some students apparently incapable of self-reflection while others are paralyzed by self-criticism and perfectionism?



### If I Only Had a Brain

There is a temptation to blame the students, and in many cases, they are struggling with problems of their own making. But there is more at play here than lack of discipline, ambition, intelligence or experience. Look at the evidence: sometimes students enter the creative flow state and write effortlessly, creating powerful images and crafting compelling words; at other times,

they are completely paralyzed, distracted and unable to write.

**The reason so many of your students make you shake your head and ask "Why?" is because they don't have a brain.** I'm not being facetious or gratuitously negative. None of us have a brain – we have a **brain system**.

Just like the digestive system consists of separate organs with discrete functions that work together to make it possible for the body to digest food, process nutrients and get rid of the excess, the brain consists of separate areas, each performing distinct purposes. All those discrete parts of the brain system collaborate remarkably well to orchestrate and monitor bodily functions and to make human thought and consciousness possible.

The human brain is typically divided into three major systems: 1) the brain stem or "lizard brain," which is located at the core of the entire brain system and maintains body functions like respiration, digestion and circulation; 2) the limbic system or "leopard brain," which surrounds the brain stem and provides the capacity for emotion and relies on the fight-or-flight instinct in response to threats; and 3) the cortex or "learning brain," which surrounds the limbic system and gives us the ability to solve problems, use language and numbers, create, anticipate the future, motivate ourselves, and reflect on and modify our behavior (Howard, *The Owner's Manual for the Brain*, 2006).

It is the potential conflict between the limbic system and the cortex that is relevant to our questions about our writing students.

### Limbic System Takeovers

The Reticular Activating System (RAS) serves as a kind of toggle switch that determines whether the limbic system or the cortex is in control (Howard, 2006). When we relax, the RAS flips control to the cortex and we are capable of the symbolic, logical and creative thinking that is the hallmark of human evolution. With the cortex in control, the individual is able to focus attention on and engage in behavior to support creative aspirations. On the other hand, when we perceive a potential threat, the RAS flips control to the limbic system and we rely on our instinctual fight-or-flight response. Creativity is dismissed as trivial compared to the serious business of staying alive and safe.

When the limbic system has been activated, we react automatically from instinct or training. Combat soldiers endure intense training and airplane pilots practice emergency maneuvers in flight simulators so that their training will override their instincts when their limbic system is activated. With the limbic system in control, the cortex is effectively shut down. We are still conscious, we can still speak and calculate, so we often don't know that the cortex has turned off, but what we say and how we act is based on previous training. We are not capable of innovative, nuanced thinking and our choices will be instinctive. None of the higher thinking functions, also called "executive functions," are available.

Consequently, writing students and professional writers alike are literally of two minds about creative work. Our cortex seeks novelty and wants to be creative. The limbic system cares only about being safe and staying alive. When the limbic system is in control, we

respond instinctively with behaviors that cause others to shake their heads and say "Why did you do that?"

### I Don't Know

Strangely enough, we often can't explain our own behavior. That is, the cortex can't explain behavior initiated by the limbic system.

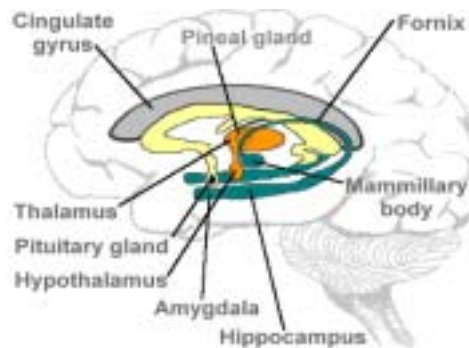
In *The Emotional Brain* (1996), Joseph LeDoux, noted neurologist and Professor of Science in the Center for Neural Science at New York University, explains how the cortex is often unaware that control has shifted. For example, if you see a snake, you'll later say something like, "I saw a snake and thought I should get away, so I jumped."

However, the faster limbic system made your body jump *before* your cortex had the conscious thought "I should jump." In other words, the cortex does a very poor job of recognizing when it is not in control.

Moreover, LeDoux reviews research that demonstrates that we have two memory systems: "...one involved in forming memories of experiences and making those memories available for conscious recollection at some later time, and another operating outside of consciousness and controlling behavior without explicit awareness of the past learning" (1996, p. 181). LeDoux shows how the limbic system often reacts to threats the cortex is not aware of and prompts action the cortex cannot explain.

Unaware that control has shifted or why, the cortex invents reasons to explain and justify behavior. Rather than admit we just don't know why we did something, a profound statement of vulnerability few of us are capable of, we rationalize, make assumptions and draw erroneous conclusions from inadequate evidence. Writers, both student and professional, often assume the worst: that we're lazy, undisciplined, lacking willpower, intelligence and ambition. Or we complain about writer's block. Or we distract

The Limbic System



ourselves and fill our schedules with other priorities to give us the illusion of virtue and allow us to say “I’m too busy to write. Maybe after I…”

Unfortunately none of these responses helps us get past the resistance caused by the limbic system’s takeover. In fact, negative assumptions and rationalizations often cause emotional distress, which reinforces the need to keep the limbic system in control. Unchecked and misinterpreted, resistance can lead to an ongoing cycle where the anxiety of anticipating not being able to write triggers the limbic system and reinforces the resistance.

### What We Do Know

Since our students have all had negative experiences around their writing, they come to the writing classroom and writing assignments with their limbic systems triggered, even if they aren’t aware of it. It is simply impossible to write creatively and well when the limbic system has precedence over the creative cortex. Likewise, it is simply impossible to teach someone whose limbic system is in control.

Until we learn how to help our students flip the RAS from limbic system to cortex, all our efforts as educators are futile. None of the higher cognitive functions necessary for writing and learning are available.

It is imperative that we understand the neurological causes of resistance, recognize resistance in its many guises, and find ways to help students relax in the writing classroom and during out-of-class writing so that their cortex can reengage.

### Recognizing Resistance

In a survey I conducted with 350 professional and aspiring writers, 94% report experiencing some form of writing resistance. The most commonly cited forms of resistance include: distractions (94%), procrastination (84%), initial inertia or difficulty getting started (84%), anxiety or fear (70%) and writer’s block (67%). Other forms of resistance cited include: staying too busy

to write, self-doubt, self-criticism, fear, perfectionism, feeling overwhelmed, inexplicable exhaustion when sitting down to write. We can reasonably assume that students, who write either because they want to or to fulfill a university requirement, experience resistance at least as often as adults who choose to write as a vocation or avocation.

The many forms of resistance can be categorized by the instinctive actions we take when the limbic system is triggered. When threatened, all mammals will freeze for a moment before choosing to fight or flee.

**Freeze:** This “deer in the headlights” response is traditionally called “writer’s block.” The cortex is turned off and the writer literally cannot think what to write. There can either be emotional numbness or intense anxiety and frustration. This is quite painful and not a state anyone would willingly put her- or himself in.

**Fight:** The fight response can be directed at the writer her- or himself, at another person, or both. Fighting yourself includes excessively harsh criticism, negative self-talk, hating the writing or yourself, perfectionism, and sabotage behaviors such as missing deadlines, losing files, having accidents, etc. Fighting others can include refusing to hear suggestions for revision, criticizing others (attacking other student writers in critique sessions), denying the need for improvement.

**Flee:** The behaviors that rise from the urge to escape the discomfort associated with writing are the most common forms of resistance. These include: distractions (other classes, other assignments, social life, work and numbing activities like excessive gaming, shopping, drinking, TV watching); the inability to stay in the chair to write (seeking answers in the refrigerator or suddenly needing to sort your sock drawer); creating other tasks that must be completed first (emails, cleaning the desk, researching beyond what’s necessary); overscheduling or overcommitting to other priorities that “must” be addressed before the writing; waiting until the last minute to start and other forms of procrastination.



All forms of resistance are frustrating for us as instructors because it seems to make students impervious to our best teaching efforts. It helps to remember that they are impervious because their limbic system is in charge, which leaves students incapable of cortical functions like self-reflection, nuanced thought, sophisticated analysis or the ability to foresee future outcomes.

### Hope Is Not Lost

The good news is that there is a lot we can do to help students identify and manage their responses so that they can write effectively. In my roles as teacher, creativity coach, and professional speaker, I've helped over a thousand writers move beyond their resistance to tap their full creative potential.

An important first step is to bring resistance out of the shadows. Explain the neurology of resistance to your students. Talk openly about writing resistance, making it clear that this is not an excuse to avoid writing, but an opportunity to devise strategies to overcome resistance. If you don't feel competent discussing how neurology applies to writing, review the brain books listed under Recommended Resources at my website [www.RosanneBane.com](http://www.RosanneBane.com) or contact me at [Rosanne@RosanneBane.com](mailto:Rosanne@RosanneBane.com) or 612-722-4139.

Send me an email if you'd like a detailed list of relaxation suggestions for writers. I'm eager to work with you, by phone or in person, to help you learn tactics that will aid you in guiding your students. We can develop strategies you can apply in your classes or discuss options for me to present this material to your students. Either way, we will teach your students practical tools that will benefit them throughout their creative lives.

Creativity Coach,  
Instructor and Speaker  
Rosanne Bane can be  
reached at  
612-722-4139  
[www.RosanneBane.com](http://www.RosanneBane.com)  
[Rosanne@RosanneBane.com](mailto:Rosanne@RosanneBane.com)



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**Kate Green, novelist and poet**

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**Nicholas C. Lauer, Director of Executive MBA Program, University of St. Thomas**

“Working with Rosanne was the best thing I did for myself while writing my Ph.D. thesis.”

**Kathy Draeger, Ph.D.**

- **Professional speaker on creative process**
- **Consultation for writing teachers**
- **Coaching for:**
  - Professional writers
  - Writing students
  - Ph.D. candidates

### My background includes:

- Teaching creativity and writing classes for the University of Minnesota, the Loft Literary Center, other universities and colleges, adult education programs and independently since 1987
- Coaching and teaching business writing to MBAs at the University of St. Thomas since 2004
- Creativity coaching over 115 clients since 1995
- Pursuing on-going independent research in how the brain functions and how adults create and learn
- Author of *Dancing in the Dragon's Den: Rekindling the Creative Fire in Your Shadow*
- Professional speaker since 2000
- M.A. in Creative and Professional Writing, University of Minnesota