Evolution is a wondrous thing. We, as biologists, would agree that the mechanisms behind change remind us of the power of nature and the adaptability of creatures in environments as different as the Mexican desert and the Amazon rainforest. According to a recent issue of *Science*, our brains appear to continue to evolve as well. Two key brain-building genes are still mutating. One of the mutated genes, microcephalin, began its swift spread among human ancestors 37,000 years ago when they were just beginning their expansion into music, art, and tool-making. The other gene, ASPM (abnormal spindle-like microcephaly-associated) arose about 5,800 years ago, around the time of writing. The microcephalin mutation occurs in 70% of the population and the ASPM gene occurs in 30 percent of the world’s people. There are, of course, other genes involved in brain building, cognition, and human intelligence. But the fact remains: Our brains are changing. Ask any biology teacher who works with adolescents on a daily basis and he/she will tell you that the brains of kids today are different. How are they different? What might be affecting this difference? How do video games affect the biology of our students’ brains? How do playing these games impact the intelligence of our students in terms of their behavior in our biology classrooms? Research indicates that video games impact students cognitively by improving their pattern recognition (think ecological/predator-prey/search-image/simulation labs), system thinking, problem solving, thinking divergently, and strategic thinking (Gee, 2003). What differentiates video games from television, novels, and movies is that competence and increased skill are built into each one. A player’s skill and processing ability must improve as he/she moves through the game. The game becomes increasingly more complex and the player must become more competent in order to master play. In essence, the player’s brain interacts differently with a video game than with the inert, two-dimensional nature of a television program. Games help people perceive the world more clearly. Our students become keener observers in order to discern details while playing video games. As such, our students should be better able to detect differences in living creatures when making observations in our classrooms. Research on gamers versus non-gamers found that gamers tend to be more social, confident, and more comfortable solving problems creatively, with no evidence of reduced attention spans (Beck & Wade, 2004).

Dopamine is the neurotransmitter released during video game play, which makes sense in terms of the role of exploration and rewards involved in gaming. Dopamine in the brain’s “seeking” circuitry urges our students forward in games involving creatures with strange adaptations. The game world delivers access to new levels, varying rewards, and additional life forms. Without dopamine, our students cannot learn properly. Dopamine lets us explore, and reach out and grab new information. Its down side is that there is a correlation between dopamine and addictiveness, which may explain why kids can play video games such as *Halo* for hours on end. I do not claim that all of video gaming is advantageous.