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head: My smmr hols wr CWOT. Yours?

subhead: Educating the digital generation

By Ian Jukes

Today's kids are dramatically different from the way we were when we were kids. I'm not talking about their clothing, hairstyles, the body parts that they pierce, tattoo, and expose, or even their music. What makes today's kids different is that they are part of Instant Messenger generation.

For example, recently a 13 year-old girl submitted an essay, which began: "My smmr hols wr CWOT. B4, we ud 2go2 NY 2C my bro, his GF & thr 3 :-kds FTF. ILNY, it's a gr8plc."

Translation: "My summer holidays were a complete waste of time. Before, we used to go to New York to see my brother, his girlfriend and their three screaming kids face-to-face. I love New York, it's a great place."

Today's students have grown up with video games, cell phones, pagers, computers, the Internet, and other digital wonders that define their world. For them there has never been a time when these technologies haven't existed. They are what Marc Prensky, a designer of software games, calls "digital natives."

Digital natives process and interact with information, and communicate in fundamentally different ways than previous generations before them. Take Instant Messaging (IM), a former of live conversation via computer that can resemble the telephone party line of yesterday. More than 19 billion instant messages are sent everyday in the U.S. alone, a significant portion of them by teenagers. As a result, we're seeing the emergence of rapidly evolving hybrid write-speak language based on words and pictures. Using just a few key strokes, complex messages are rapidly composed, sent, and instantly responded to from wherever: bus, movie theatre, bedroom, classroom or even the exam hall.

Meanwhile, many of us who grew up in a relatively low-tech world can't comprehend this generation's fascination with game playing, instant messaging, blogging and surfing the Web. That's because we're DSL: We speak Digital as a Second Language.

But there's far more to this story that meets the eye. Current research suggests that the brains of the digital generation are different physically and chemically. And they continue to change.

Conventional thinking has been that each of us, by age 3, develop a fixed number of brain cells, which then die off, one by one. People have also believe that, regardless of race, culture, and experience, we used our brains to think in basically in the same way, using the same neural pathways to process information.

However, over the past five years, neurobiological research shows that the brain constantly reorganizes itself structurally throughout life based on input and intensity. This reorganization is called neuroplasticity - the brain literally and continuously restructures neural pathways.

But brains just don't change by themselves. They require sustained stimulation and focus over long periods of time: several hours a day, seven days a week. Learning to read and write required just that: several hours a day, seven days a week. Similarly, watching TV for extended periods of time reprogrammed our brains.

What does several hours a day, seven days a week remind you of? This is increasingly what's been happening to digital kids' brains since the arrival of Pong in 1974. Today, video games, computers, cell phone, and a multitude of other digital devices facilitate hypertext, interactivity, networking, random access, and multi-tasking. These experiences are literally rewiring kids' brains so they probably process information differently that we do.

A new field of study known as neurobiology has emerged in the past few years. This is the digital analysis of brain processes using imaging scanners to digitally analyze the brain's thinking patterns at the molecular level. If we were to take an electronic scan of our brains and compare them to those of

our kids' brains, we would find that they use fundamentally different neural pathways to process the same information that we do.

This may explain why digital kids process information differently from us digital immigrants, and it helps explain why they act the way they do. It may also help to explain the fundamental difference between our generation and theirs. Yet sadly, almost none of what we have learned about how the brain functions is being applied to learning or instruction.

The reality today is that increasingly high-stakes testing and accountability are driving education. We simply cannot pretend this isn't the case. How can we deal with the gap between the issues of accountability, and what the research tells us, while at the same time addressing the growing dissonance between digital kids learning and our DSL instructional styles?

This isn't about creating some far out vision for learning in the future. Conversely it's not about continuing to fixate on the past, on the back-to-basics mentality that reflects yesterday's world. As professionals we must continue to address the issues of accountability on one hand, and the abilities and preferences of digital learners on the other. Therefore we must be fully cognizant of the implications of not only *what* is being taught, but also *how* it should be taught.

For a much lengthier examination of this issue download *The New Digital Landscape* from <http://www.thecommittedsardine.net/infosavvy/education/handouts/handoutsmain.asp>