

Addressing the Needs of Digital Age Learners

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Digital Age Learners

Digital age learners in the 21st Century USA fall into three major categories:

- **Millennials-Generation 1**—80 million, born between 1980–1995 (26% of population). (Safer, 2008). These were the original Millennials and are about to become the teachers of the next generation. They are also called Gen Y.
- **Millennials-Generation 2** (Google Generation= G^2)—43 million, born after 1995 (estimated 14% of population). (Schroer, 2004). This group is becoming a new baby boom—more children were born in 2007 (4.3 million) than ever before in a single year in U.S. history. They are also called Gen Z, see below.
- **Pre-Millennials**—185 million, born before 1980 (estimated 60% of population). (U.S. Census Bureau, 2009) Pre-Millennials were often taught how to use technology by their children and grandchildren in G1. These are mostly Baby Boomers (1943-1960) and Gen X members (1961-1981). Sometimes Baby Boomers and earlier generations are called BC (before computers).

One assumption in these definitions is that *we are all digital age learners*, just in different age, generation, and career positions.

Other classifications have been proposed for the learners just now “coming of age,” for example, Generation Z.

Generation Z is one of the names used for the First World or Western generation of people born between the mid-1990s to late 2000s. Following Generation Y, they are typically the children of Generation X; their parents also include the youngest Baby Boomers and some of the oldest Gen Y'ers. On the average they are highly connected, many having had lifelong use of communications and media technologies such as the World Wide Web, instant messaging, text messaging, MP3 players, cellular phones and YouTube, earning them the nickname "digital natives". (Wikipedia)

Some major characteristics of Millennials include that they are:

- Technology-Based: They use iPhones, video games, television, World Wide Web, etc. This generation is addicted to media.
- Multitaskers: They often engage in simultaneous tasks but are not necessarily able to function to their full capacity while doing so.
- Service-Oriented: They have a strong sense of the common good and of collective social and civic responsibility.
- Social Networkers: They need close networks of friends via social networking sites and other virtual communities.
- Consumer Savvy: They know how to shop and are not fooled into buying products that don't meet their needs.
- Fairness-Oriented: They feel they have the right to privacy, express their views and to be treated fairly.

(Source: CNN.com/US Article & Young Life Magazine, Spring 1998)

How are Generation Y and Z Millennials different from Baby Boomers?

- We talk, they text.
- They wear their technology.
- They change jobs like we change jackets (career is a foreign word).
- For them, relationships are everything; they are connected to each other and to the wider world.
- We think computers are magic, like our grandparents viewed light bulbs; they never remember a time where there were not computers.
- They are digital natives.

How are Generation Y and Z Millennials different from Gen X?

Generation X	Millennials
Born 1965-1976 51 million	Born 1977 – 1998 75 million
Accept diversity Pragmatic/practical Self-reliant/individualistic Reject rules Killer life Mistrust institutions PC Use technology Multitask Latch-key kids Friend-not family	Celebrate diversity Optimistic/realistic Self-inventive/individualistic Rewrite the rules Killer lifestyle Irrelevance of institutions Internet Assume technology Multitask fast Nurtured Friends = family
Mentoring Do's · Casual, friendly work environment · Involvement · Flexibility and freedom · A place to learn	Mentoring Do's · Structured, supportive work environment · Personalized work · Interactive relationship · Be prepared for demands, high expectations

From: Thielfoldt & Scheef (2004). Generation X and The Millennials: What You Need to Know About Mentoring the New Generations. *Law Practice Today.*

How are Generation Z Millennials (incoming students) different from Gen Y Millennials (incoming teachers)? No one really knows.

Major Needs to Be Addressed

One major problem for Millennials is the dropout rate, especially for boys:

- Nearly one in five U.S. men between the ages of 16 and 24 (18.9 percent) were dropouts in 2007.
- Nearly three of 10 Latinos, including recent immigrants, were dropouts (27.5 percent).
- More than one in five blacks dropped out of school (21 percent). The dropout rate for whites was 12.2 percent.
- Georgia had the highest dropout rate at 22.1 percent, but California (14.4%) had the greatest number with 710,000 as of 2007.

Over a working lifetime from ages 18-64, high school dropouts are estimated to earn \$400,000 less than those that graduated from high school. For males, the lifetime earnings loss is nearly \$485,000 and exceeds \$500,000 in many large states. ... Over their lifetimes, this will impose a net fiscal burden on the rest of society. (Left Behind in America: The Nation's Dropout Crisis, Center for Labor Market Studies, May 5, 2009)

This contributes to a second potential imbalance, a workforce of the future lacking of men:

- Middle class white males are losing jobs that are often outsourced to other countries.
- Boys are dropping out of high school (*60% of all young dropouts in the nation*).
- Girls have higher college completion rate (EricDigest '04: *Women won 55 percent of the bachelor's degrees and 55 percent of the master's degrees in '97*).
- 82% of public school teachers nationwide are women. (NCEI 2005: *The public school teaching force in the United States is becoming more female and older.*)

- Where will the male role models come from?
- Major problem in schools today: Kids lack a father figure (Marco Torres, former California Teacher of the Year. Digital Media: How to Ignite Innovation in Your Classroom. November 2009)
- About 1.7 million babies were born in 2007 to unmarried women, a 26% rise since 2002. This figure represents nearly four out of every 10 births. (Wikipedia 11/09; MSNBC 3/09: Unwed birth rate reaches all-time high in U.S.)

How technology can probably help:

- 1-1 laptops + middle school boys approaches or exceeds achievement of girls. Computers in the Schools 2008 (Dunleavy & Heinecke): Male Effect Size=+.55, F=.04.

Especially if gender preference is allowed to influence use:

- Elementary School Girls enjoy computers as much or more than boys. JRTE 2005 (Christensen et.al.): ES = +.16 for girls Grade 5, -.12 by Grade 8, n=10,000.
- HS Boys (more than girls, 30% vs. 5%) prefer games as #1 free time tech use.
- HS Girls (more than boys, 46% vs. 27%) prefer social networking. Knezek & Christensen (2009): Survey of 2,413 HS students N. Dallas.

Another major need is to use technology and pedagogy tailored to the way Millennials learn best:

Digital Age learners are built for collaborative PBL	
<p>Millennials Share in Common</p> <ul style="list-style-type: none"> • Know they are Special • Had Sheltered Lives • Are Confident • Are Team-Oriented • Are Conventional (in thinking) • Are Pressured • Are Achieving <p><i>Millennials Rising: The Next Great Generation</i></p>	<p>Elements of Effective Project:</p> <ul style="list-style-type: none"> • Clear Purpose • Sufficient Time • Personally Meaningful • Complex <ul style="list-style-type: none"> – Including serendipitous • Connected / Interconnected • Sharable • Access to constructive materials (Staeger 11/09)

The preferred learning style of Millennials G² (Google Generation or Generation Z), which is assumed to be *Whole Brain*, may not be a good match for the currently dominant *Left Brain* (logical, orderly, step-by-step) teaching style. Project-based learning (PBL), guided under the supervision of an adult, may cater to the cooperative, confident, high-achieving nature of Millennials, while also providing the “problem-solving apprenticeship” some (e.g., Staeger, 2009) claim was largely missing for the original Millennials, G1. Technology has been shown to be especially effective for those with special needs and those who are gifted. Technology may be more useful if its mission shifts away from bringing every child up to a minimal competency level, and instead targets, on an individual basis, each child’s unique development needs.

There is a serious need for digital equity. There must be technology access in or through the school, especially for families without sufficient funds to provide access for their children at home.

- In the early days of the Maine Learning Technology Initiative (MLTI), schools that did not allow laptops to go home had segments

- In a study spanning 51 Texas school districts (1999-2004), attitudes of first and second graders without computers at home but with high-infusing teachers at school had positive perceptions of computers; those with low-infusing teachers did not. (See KIDS Project Findings, iittl.unt.edu.)

How do we accomplish digital equity?

- No one really knows.
- So far 1-1 laptop initiatives are not sustainable (affordable at normal school funding levels), but access time is so much greater outside of school that the belief is there must be access at home guided from school.

Key Questions

1. In what ways does teacher education need to change to better meet the needs and learning style of digital-age learners?
2. How can teacher education attract and recruit more males to the teaching profession?
3. How can teacher education help address the need for digital equity?