



# No Teacher Left Behind: Teaching Strategies for the Net Generation

*Ronald A. Berk*

## **DISCLAIMER:**

This chapter is based on my presentation at the 26th annual ES Conference. Unfortunately, none of the theatrical effects can be replicated in this print format. Those effects missing from this version are the opening parody “CSI: Chicago”; music clips on every PowerPoint® slide; video clips from *Glee* of a Lady Gaga song, *The Muppet Movie*, *The Social Network*, and *Avatar*; and an appropriate sprinkling of jokes. The content has not only been retained but been updated, complete with references. Although lacking the entertainment element of the original, this chapter contains information that will hopefully be valuable in your work.

To date, more than forty books and scores of articles and chapters have been written on the Net Generation (aka Millennials) of students. Nine of the books describe the distinguishing characteristics of the Net Geners from previous generations and their implications for all aspects of education (Bonner, Marbley, and Hamilton 2010; Howe and Strauss 2000; Junco and Mastrodicasa 2007; Oblinger and Oblinger 2005; Palfrey and Gasser 2008; Pletka 2007; Strauss and Howe 2003, 2006; Sturges 2008). There are also ten national and international surveys of their characteristics.

This generation has been studied, surveyed, scrutinized, interviewed, poked, and prodded more than any previous generation. The purposes of this chapter are to synthesize what is known about these students from an educational perspective and suggest directions for teaching based on the

---

**Dr. Ronald A. Berk** is Professor Emeritus of Biostatistics and Measurement at The Johns Hopkins University.

latest revision of the core InTASC standards. Specifically, the following topics will be addressed: (1) birth date and terminology, (2) survey research evidence, (3) access to and use of technology, (4) learner characteristics, (5) Net Geners Profile Scale, (6) InTASC standards, (7) aligning teaching strategies with standards and characteristics, and (8) epilogue.

## **Birth Date and Terminology**

Although the birth dates used to define this generation have varied across surveys, there seems to be some agreement in the literature: typically between 1982 and 2003 (standard error of  $\pm 2$  years). Those students are now 7 to 28 years old. That translates educationally into second grade through graduate school. The up-and-coming kindergartners and first graders may be even more sophisticated. No educator can escape the impact of this generation. That means: “No Teacher Left Behind.”

The name for this generation has been considerably more contentious. Authors and researchers have used a variety of terms in their articles and books, such as Millennials, Generation Y, Trophy Kids, Net Generation, and Digital Natives, to cite just a few. This has produced confusion and much debate over the most appropriate label. There are at least ten proposed names or monikers. For a discussion of those names and their rationales, see Berk (2009b).

1. Millennials
2. Generation Y (or Gen Y)
3. Echo Boomers
4. Net Generation (or Net Geners)
5. Trophy Generation (or Trophy Kids)
6. First Digitals
7. Dot.Com Generation
8. Digital Aboriginals
9. Nexters
10. Digital Natives

This chapter uses Net Generation (or Net Geners), which was coined by Tapscott (1997). It is linked directly to the (Inter)net and the emerging digital technology of the 1980s and 1990s with which this generation grew up. They never knew a world without computers and the Internet. This term also seems to be the simplest, most descriptive, least controversial, and easily understood, plus it denotes the profound influence of the Internet on these students' lives.

### **Survey Research Evidence**

As the Net Geners were maturing over the past decade, the eldest members were graduating from college and attending graduate school or entering the workforce in droves. Their impact on education at all levels has been of major interest to researchers and educators. Previously, Berk (2009b) synthesized pertinent research evidence based on ten national and international surveys. For information on the methodologies employed, consult the specific study resources given below:

1. EDUCAUSE (Frاند 2000; Oblinger 2008; Oblinger and Oblinger 2005)
2. College Students' Perceptions of Libraries and Information Resources Survey (Online Computer Library Center [OCLC] 2006)
3. Greenberg Millennials Study (Greenberg and Weber 2008)
4. Higher Education Research Institute (UCLA) American Freshman Survey (Pryor et al. 2009)
5. National Center for Education Statistics (NCES and Kridl 2002)
6. Net Generation Survey (Junco and Mastrodicasa 2007)
7. The Net Generation: A Strategic Investigation (Tapscott 2009)
8. Nielsen NetView Audience Measurement Survey (Cashmore 2009; Ostrow 2007)
9. Pew Internet and American Life Project (Horrigan 2006; Horrigan and Rainie 2005)
10. Technological Preparedness among Entering Freshman (Sax, Ceja, and Terenishi 2001)

## Access to and Use of Technology

According to their survey of 7,705 college students in the United States, Junco and Mastrodicasa (2007) found the following characteristics of Net Geners (except where noted):

- 97% own a computer
- 94% own a cell phone or iPhone
- 99% use the Internet for research or homework (Pryor et al. 2009)
- 89% begin their search for everything with search engines like Google (OCLC 2006)
- 76% use instant messaging (IM) logged on 35 hrs./wk., chat 80 min./day; 15% logged on 24/7
- 87% read news Web sites (Pryor et al. 2009)
- 34% use Web sites as their primary source of news (40% use TV, with 15% watching *The Daily Show* and 5% *The Colbert Report*)
- 57% are media creators (Oblinger 2008); 35% own a blog, and 57% read blogs (Pryor et al. 2009)
- 49% download music using peer-to-peer sharing (15% download movies, and 16% download software)
- 92% multitask while IMing
- 75% have a Facebook account
- 56% own an MP3 player (iPod, Zune, Sansa, or similar music/video device)

Just because this generation of students grew up with the technology and all of the tools of the digital age doesn't mean that throwing technology at them in the classroom will automatically result in effective teaching for you and successful learning for them. You need to understand *how they use technology* and *how they think* before systematically applying technology in your classroom. In other words, collect intelligence information (aka "intel") on your students so that you can match technology tools to their characteristics.

This is analogous to ex-Marine Jake Sully's task in *Avatar*: to gather intel on alien, supermodel-like, 10-foot tall, blue-skinned, golden-eyed Na'vi inhabitants of the computer-generated sci-fi world of Pandora. His purpose

was to gain their trust in order to set up schools, teach them English, and convince them to leave their homeland voluntarily. Why? Because if they didn't leave, psycho-warrior Colonel Miles Quaritch would blow them to kingdom come, digitally speaking, of course.

Consider this scenario: YOU are in your teacher–Gen X (born 1961–1981) or Boomer (born 1943–1960) world and your STUDENTS (born 1982–2003) are in their high-tech, twitch-speed, digital, mobile, always-on media world. (*Exception Noted:* Since the upper limit of the Net Geners is 27 years old, there may be newbie teachers in the 21–27 age range who fit their students' profile. For the rest of you, your students' world may be perceived as a bit alien.) Could this possibly be a “Close Encounter of the Student Kind”? Now that these alien analogies are over, it's time to move on.

### **Learner Characteristics**

Beyond the use of technology, a synthesis of the research results from the surveys and aforementioned books has yielded twenty learner characteristics (Berk 2009b) typical of most Net Geners. (*CAVEAT:* There are many students who do not fit that complete profile, both in the United States and internationally. Social and economic class differences, especially, can account for Net Geners' proficiency or lack thereof with the technology and their daily habits. Those differences may be evident in your classes.)

Here is an inventory of those characteristics. For descriptive information on each characteristic and supporting research, see Berk (2009b).

1. Tech Savvy
2. Relies on Search Engines
3. Interested in Multimedia
4. Creates Internet Content
5. Operates at Twitch Speed
6. Experiential/Kinesthetic
7. Trial and Error
8. Multitask
9. Short Attention Span

10. Visually Literate
11. Face-to-Face Interaction
12. Emotionally Open
13. Embraces Diversity
14. Prefers Teamwork
15. Lifestyle Fit
16. Pressure to Succeed
17. Seeks Feedback
18. Instant Gratification
19. Responds Quickly
20. Prefers Typing

### **Net Geners Profile (NGP) Scale**

Now let's make these characteristics up close and personal. Based on the list of twenty characteristics, I extracted fifteen behaviors that capture a typical profile of most of these students (Berk 2010b). Those fifteen have been assembled in the form of a rating scale (see Figure 1).

Figure 1

**NET GENER PROFILE (NGP) SCALE**

**DIRECTIONS:** Read each statement in the context of your own daily activities. If you do it **MOST** or **ALL OF THE TIME**, place an **X** in the **YES** box; otherwise, mark the **NO** box. Add the **Xs** in the **YES** column to determine your **NGP** score at the bottom.

<b>IN MY DAILY ACTIVITIES</b>	<b>YES</b>	<b>NO</b>
1. I function at high speed or close to it in everything I do.	<input type="checkbox"/>	<input type="checkbox"/>
2. I use a PC/Mac, iPhone, MP3 player, and other hi-tech equipment.	<input type="checkbox"/>	<input type="checkbox"/>
3. I multitask easily with various tech equipment.	<input type="checkbox"/>	<input type="checkbox"/>
4. I use search engines like Google to find whatever I need.	<input type="checkbox"/>	<input type="checkbox"/>
5. I respond quickly to messages (phone, texting, e-mail, etc.).	<input type="checkbox"/>	<input type="checkbox"/>
6. I use Facebook, MySpace, Twitter, or other online social networks to stay connected with family and friends.	<input type="checkbox"/>	<input type="checkbox"/>
7. I prefer to learn by trial and error rather than to read a manual.	<input type="checkbox"/>	<input type="checkbox"/>
8. I learn best by doing rather than by reading or observing.	<input type="checkbox"/>	<input type="checkbox"/>
9. I prefer to collaborate with others on projects rather than to work alone.	<input type="checkbox"/>	<input type="checkbox"/>
10. Working at home is more convenient than going to the library or elsewhere.	<input type="checkbox"/>	<input type="checkbox"/>
11. I download music, videos, and software easily, sometimes for free.	<input type="checkbox"/>	<input type="checkbox"/>
12. I contribute to my own Website, blog, or a video on YouTube.	<input type="checkbox"/>	<input type="checkbox"/>
13. If I'm not actively doing something, I get bored or impatient.	<input type="checkbox"/>	<input type="checkbox"/>
14. I enjoy being with people from diverse racial, ethnic, and cultural backgrounds.	<input type="checkbox"/>	<input type="checkbox"/>
15. I prefer visuals, graphics, and images to just reading text material.	<input type="checkbox"/>	<input type="checkbox"/>

Score 1 point for each **X** in the **YES** column. Write your total score on this line: \_\_\_\_\_

**NET GENER PROFILE (NGP) CATEGORY:**

13-15 **High**

9-12 **Moderate**

0-8 **Low**

**COPYRIGHT © 2010 Ronald A. Berk, LLC**

Consider the following questions:

1. How closely do you embody the major characteristics of your students?
2. In what areas have you changed that narrow your generation gap?
3. What are the areas of greatest difference?
4. How can these differences affect your teaching effectiveness?

The more you can think like your students in planning HOW you teach, the more successful you can be. So, just how different are you from your students? In order to answer the preceding questions, I encourage you to complete the scale and also administer it to your students. It will take five minutes or less.

The results will provide you with an indication of how similar or different you are to the survey research-based “Net Gener Profile.” If you choose to administer it to your students in class or online, you will be able to obtain an overall impression of how closely your students resemble that profile. A comparison of your results with those of your students can reveal areas of discrepancy in the way you think about your teaching methods and how those methods are received by your students. Further information on interpreting the scores can be found in Berk (2010b).

## **InTASC Standards**

So what do the students’ characteristics have to do with teaching and the latest edition of the InTASC model core standards for licensing teachers, as well as teacher preparation and professional development? Let’s examine a sample of key indicators:

1. “link prior experiences, knowledge, and personal interests to new information”
2. “accommodate learning differences, learning styles, strengths and needs”
3. “enhance social relationships and engagement”
4. “work collaboratively and independently”
5. “use a variety of media communication tools”

Think *Avatar* in the classroom:

1. Gather INTEL on your students: (a) the way they think; (b) how they behave; (c) their interests; and (d) their culture
2. Understand a–d
3. Match a–d to the STANDARDS
4. Leverage a–d in HOW you teach
5. Establish a connection through ENGAGEMENT
6. Gain their TRUST

An example of how to align the students' characteristics with the standards and teaching strategies is suggested next.

### **Aligning Teaching Strategies with Standards and Characteristics**

The trick is to focus on the students' characteristics first and last. After all, teaching is all about the students. As you pick a standard, match it to one of their learner characteristics. Then select strategies that will tap that characteristic. Drawing on the five indicators listed previously, this matching process is illustrated in Figure 2.

**Figure 2**  
**Matching Learner Characteristics to InTASC Standards**  
**and Teaching Strategies**

<i>InTASC Standard</i>	<i>Learner Characteristic</i>	<i>Teaching Strategy</i>
1. Link Prior Experiences and Interests	Interest in Media	Incorporate YouTube Clips (TV, movies, etc.)
2. Learn. Diff. and Styles	Diversity	Draw on 4–6 Intelligences and Learning Styles
3. Social Relationships	Use of Social Media	Plan Activities with Facebook/Twitter
4. Work Collaboratively	Team-Oriented	Create Cooperative Learning, Games, and Improvisation
5. Multimedia	Tech. Savvy	Use Music, Videos, and Web 2.0–3.0 Technology

As you extend Figure 2 to your own classroom on a very concrete level, how can all of the information presented in this chapter be boiled down to the improvement of teaching? The message from the standards and the twenty learner characteristics seems to be: learner-centered techniques (Cornelius-White 2007) should be blended with the latest technology (Berk 2010a). Students need to feel connected to you and to each other, face-to-face and online. Mix your methods; incorporate a variety of technology tools. The operative criteria for in-class and out-of-class activities to be successful are digital, visual, speed, hands-on, multimedia, multitask, interactive, collaborative, feedback, and connected (Berk 2008a, 2008c, 2010a).

Once you have leveraged the elements in your students' world and have established an in-person as well as a virtual connection, you can diversify your methods and content to present elements from *your* world and discipline(s). For example, using hip-hop music and YouTube video clips to which students can relate to illustrate content points in class will provide the

connection; then you can experiment with Mozart and clips from *A Few Good Men* or *The West Wing* to stimulate discussion on other topics (Berk 2001, 2008b, 2009a; Eddy and Bracken 2008; Miller 2009). This will facilitate a multimedia balance to attain specific learning outcomes.

### **Epilogue**

After all that has been written on the Net Generation, including my previous articles, and now adding this piece to that body of work, what can I possibly say or contribute that you don't already know? Hopefully, this chapter clarified and extended the work of my predecessors in a form that fosters a better understanding of your students and how you can apply the InTASC standards and the vast array of teaching strategies effectively in your classroom. Perhaps a few of the suggested strategies will provide useful additions to your current repertoire.

The twenty Net Gener characteristics indicate that these students crave in-class and out-of-class experiences that are active, participatory, visual, collaborative, fast moving, quick thinking, rapid responding, emotionally freeing, and spontaneous. Plan memorable learning experiences that draw on the available technology gadgets with which your students are most familiar and systematically match their characteristics. Leverage these gadgets to attain specific learning outcomes. They can serve as teaching tools to turbocharge your learning environment to give every student the opportunity to succeed and perform at the highest level.

### **References**

- Berk, R. A. 2001. Using music with demonstrations to trigger laughter and facilitate learning in multiple intelligences. *Journal on Excellence in College Teaching* 12 (1): 97–107.
- Berk, R. A. 2008a. Humor and the net generation. *Thriving in Academe* 25 (4): 5–8.
- Berk, R. A. 2008b. Music and music technology in college teaching: Classical to hip hop across the curriculum. *International Journal of Technology in Teaching and Learning* 4 (1): 45–67.

- Berk, R. A. 2008c. Star tech: The net generation. In *Teacher education yearbook XVI: Imagining a renaissance in teacher education*, ed. C. J. Craig and L. F. Deretchin, 131–45. Lanham, MD: Rowman and Littlefield Education.
- Berk, R. A. 2009a. Multimedia teaching with video clips: TV, movies, YouTube, and mtvU in the college classroom. *International Journal on Technology in Teaching and Learning* 5 (1): 1–21.
- Berk, R. A. 2009b. Teaching strategies for the net generation. *Transformative Dialogues: Teaching and Learning Journal* 3 (2): 1–23.
- Berk, R. A. 2010a. How do you leverage the latest technologies, including Web 2.0 tools, in your classroom? *International Journal of Technology in Teaching and Learning* 6 (1): 1–13.
- Berk, R. A. 2010b. Net generation profile scale: This is only a test scale! *Transformative Dialogues: Teaching and Learning Journal* 3 (3): 1–6.
- Bonner, F. A., II, A. F. Marbley, and M. F. Hamilton, eds. 2010. *Diverse millennial students in college: Implications for faculty and students affairs*. Sterling, VA: Stylus Publishing.
- Cashmore, P. 2009. Stats confirm it: Teens don't tweet (Nielsen NetView Audience Measurement Survey, July 2009). Retrieved August 6, 2009, from <http://mashable.com/2009/08/05/teens-dont-tweet>.
- Cornelius-White, J. 2007. Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research* 77:113–43.
- Eddy, P. L., and D. Bracken. 2008. Lights, camera, action! The role of movies and video in the classroom. *Journal of Faculty Development* 22 (2): 125–34.
- Frاند, J. L. 2000. The information-age mindset: Changes in students and implications for higher education. *EDUCAUSE Review* 35:15–24.
- Greenberg, E. H., and K. Weber. 2008. *Generation we: How millennial youth are taking over America and changing our world forever*. Emeryville, CA: Pachatusan.
- Horrigan, J. B. 2006. *Home broadband adoption*. Washington, D.C.: Pew Internet and American Life Project.

## No Teacher Left Behind: Teaching Strategies for the Net Generation

- Horrigan, J. B., and L. Rainie. 2005. *Internet: The mainstreaming of online life*. Washington, D.C.: Pew Internet and American Life Project.
- Howe, N., and W. Strauss. 2000. *Millennials rising: The next great generation*. NY: Vintage Books.
- Junco, R., and J. Mastrodicasa. 2007. *Connecting to the net.generation: What higher education professionals need to know about today's students*. Washington, D.C.: Student Affairs Administrators in Higher Education (NASPA).
- Miller, M. V. 2009. Integrating online multimedia into college course and classroom: With application to the social sciences. *MERLOT Journal of Online Learning and Teaching* 5 (2): 395–423.
- National Center for Education Statistics (NCES) and B. Kridl. 2002. *The condition of education*. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.
- Oblinger, D. 2008. *The next generation learner*. Keynote address presented at the AASCU/EDUCAUSE/University of Central Florida Conference on Students, Technology, and Learning: Strategies for Success, Orlando. Retrieved July 20, 2009, from <http://www.educause.edu>.
- Oblinger, D. C., and J. L. Oblinger, eds. 2005. *Educating the net generation*. EDUCAUSE. Retrieved November 14, 2006, from <http://www.educause.edu>.
- Online Computer Library Center (OCLC). 2006. *College students' perceptions of libraries and information resources: A report to the OCLC membership*. Dublin, OH: Author.
- Ostrow, A. 2007. Stats: Facebook traffic up 117%, Veoh soars 346% (Nielsen Net Ratings, August 2007). Retrieved August 6, 2009, from <http://mashable.com/2007/09/13/nielsen-august>.
- Palfrey, J., and U. Gasser. 2008. *Born digital: Understanding the first generation of digital natives*. NY: Basic Books.
- Pletka, B. 2007. *Educating the net generation: How to engage students in the 21st century*. Santa Monica, CA: Santa Monica Press.

- Pryor, J. H., S. Hurtado, L. DeAngelo, J. Sharkness, L. C. Romero, W. S. Korn, and S. Tran. 2009. *The American freshman: National norms for fall 2008*. Los Angeles: Higher Education Research Institute, UCLA.
- Sax, L. J., M. Ceja, and R. T. Terenishi. 2001. Technological preparedness among entering freshman: The role of race, class, and gender. *Journal of Educational Computing Research* 24 (4): 363–83.
- Strauss, W., and N. Howe. 2003. *Millennials go to college: Strategies for a new generation on campus*. Great Falls, VA: American Association of Collegiate Registrars.
- Strauss, W., and N. Howe. 2006. *Millennials and the pop culture: Strategies for a new generation of consumers in music, movies, television, the Internet, and video games*. Great Falls, VA: LifeCourse Associates.
- Sturgess, M. 2008. *Teaching the net generation: Reflections on the practice of blended learning in first-year post-secondary education*. Saarbrücken, Germany: VDM Verlag.
- Tapscott, D. 1997. *Growing up digital: The rise of the net generation*. NY: McGraw-Hill.
- Tapscott, D. 2009. *Grown up digital: How the net generation is changing your world*. NY: McGraw-Hill.

No Teacher Left Behind is essential for the brand new teacher, those that have taught for many years and may need to get back "in touch" with the students of this new generation, and parents, as well. It is my belief that this book should be a requirement for any university teacher program. No Teacher Left Behind is a real plan of action. This book is full of things you can start doing right now to improve your teaching and reach your students. Unlike many other classroom how to's this book takes in to account the advances in technology. It lays out strategies for helping struggling students, giving directions to keep students on task, for listening to students, for classroom management, and for motivating students. Many educational books are overwhelming. 88 No Teacher Left Behind: Teaching Strategies for the Net Generation. Horrigan, J. B., and L. Rainie. 2005. Internet: The mainstreaming of online life. Washington, D.C.: Pew Internet and American Life Project. Howe, N., and W. Strauss. 2000. Millennials rising: The next great generation. NY: Vintage Books. Junco, R., and J. Mastrodicasa. The next generation learner. Keynote address presented at the AASCU/EDUCAUSE/University of Central Florida Conference on Students, Technology, and Learning: Strategies for Success, Orlando. Retrieved July 20, 2009, from <http://www.educause.edu>.