Educating Dental Students of the Current Generation

Ever since the book *Generations* (by William Strauss and Neil Howe) was first published in 1991, Americans have become familiar with the term Boom Generation, or more commonly *Baby Boomer*, as the name given to the generation born between 1943 and 1960.[1] The post-war population surge was responsible for the creation of a totally different group of people, vastly different from their predecessors in terms of what motivates them, their social values, and communication patterns. Jean Twenge, who wrote the book *Generation Me* published in 2006 writes: "Everyone belongs to a generation. Some people embrace it like a warm, familiar blanket while others prefer not to be lumped in with their age mates. Yet like it or not, when you were born dictates the culture you will experience. This includes the highs and lows of pop culture as well as world events, social trends, economic realities, behavioral norms, and ways of seeing the world. The society that molds you when you are young stays with you the rest of your life."[2]

Martin Long, a consultant at NFP Analysts Pty Ltd, a consulting firm for not-for-profit organizations in Australia, notes that four generations exist in the workplace. Long organizes these four generations as follows:

- Veterans or seniors (pre-boomers)—born before 1945
- Baby Boomers—born 1946 to 1964
- Gen X—born 1965 to 1979
- Gen Y (or Millennial)—born after 1980

Long writes that each of the above has a different communication need based on their lifestyle characteristics and personal communication styles. Each demographic has a distinct set of values, view of work/life balance, concept of loyalty, and expectations from the work environment.[3]

For today's educators, it is important to understand how the Class of 2012 is vastly different from the Class of 1985 (and all other classes before then, for that matter) in order to affect a productive and positive environment for the dental student now and into the future. The differences in the current generation of learners may pose several challenges to the Baby Boomer professor in the dental school. Reflecting on her role as a parent of this new generation, *San Francisco Chronicle* columnist Joan Ryan wrote: "We're told we will produce a generation of coddled, center-of-the-universe adults who will expect the world to be as delighted with them as we are."[4]

Today's young people believe that the individual comes first, and feeling good about yourself has always been a primary virtue. They are highly optimistic: they expect to make a lot of money and perhaps even to be famous. Yet this generation enters a world in which good jobs are hard to find and harder to keep, and basic necessities like housing and health care have skyrocketed in price. This is a time of soaring expectations and crushing realities. "The gap between what they have and what they want has never been greater," Joan Chiaramonte, Roper Youth Report head.[5]

The following research on generations in the workplace points out some interesting differences between dental students of the past and present, including workplace and lifestyle characteristics and social values. The effective teacher must understand how to communicate with these new learners in order to maximize students' educational experience. Please refer to the following three tables (Tables 1–3) for a summary of differences between the last five generations of dental classes with respect to workplace and lifestyle characteristics and social values.[6]

Some of the take-home messages teachers must glean from these tables are what motivates the student of the 21st century. Some of the most important generalized motivators include mentoring, portable skills training, meeting own goals, preparation for self-employment, and sales training.

 DOI 10.1111/j.1708-8240.2012.00522.x

TABLE 1. Workplace characteristics

Pre-Boomer	Boomer	Gen X		Gen Y/Millennial
1934–1945	1946–1964	1965–1968	1969–1979	1980+
Class of 1960–1971	Class of 1972–1990	Class of 1990–1994	Class of 1995–2005	Class of 2006 and beyond
Traditional work ethic	Money/work ethic	Money/principal	Principal/satisfaction	Principal/satisfaction
Work first	Work first	Some of both	Lifestyle first	Lifestyle first
Born to lead	Expect to lead	Lead and follow	No need to lead	Lead if necessary
Independent but conventional	Care deeply what others think	Some of both	Don't care what others think	Care little what others think
Strong chain of command	Chain of command	Mixed	Individual first	Individual first
Source: Career Strategies, Marilyn Moats Kennedy, 2004.				

TABLE 2. Lifestyle characteristics

Pre-Boomer	Boomer	Gen X		Gen Y/Millennial
1934–1945	1946–1964	1965–1968	1969–1979	1980+
Class of 1960–1971	Class of 1972–1990	Class of 1990–1994	Class of 1995–2005	Class of 2006 and beyond
Work hard, save money	Work hard, play hard, spend hard, talk about it	Work hard, play hard, worry about money	Work hard if it doesn't interfere; save money	Good grades; make others pay; save money
I like it, it's O.K.	Do you really like it? Will others?	Should I really like it? Will others?	I like it; I don't care what you think	I like it; think small
Formal dinners	Competitive dinner parties	Make reservations	Pot luck dinners	Pot luck dinners
Exercise if forced to	Exercise for body definition	Exercise is a duty	Exercise for mental health	What's your second sport?
Buy a decent house	Buy the most house you can	Do I need a house	Reclaim the inner city	I like living with my parents
Source: Career Strategies, Marilyn Moats Kennedy, 2004.				

According to career research by Moats, "During the last four college recruiting seasons, the three most persuasive arguments to Gen X/Gen Y from prospective employers were:

- I (the boss) will mentor you.
- You will never be bored. If you are I'll change your assignment.
- You will always be on a steep upward learning curve.

Nothing matches constant skills improvement in the Gen X/Gen Y career pantheon."[5] In our case as dental educators, the take-home message might include the use of innovative teaching methods like the time-tested study club (please see section on Study Clubs), in addition to the mainstream curriculum.

STUDY CLUBS

When the author matriculated at the University of California, Los Angeles (UCLA) School of Dentistry in 1982, the curriculum was heavily focused on the arena of technical skills development. It was common for schools at this time to require students to complete a MINIMUM requisite number of procedures in the major clinical disciplines. Although the word "competency" existed, the tendency was toward

 DOI 10.1111/j.1708-8240.2012.00522.x

TABLE 3. Social values

Pre-Boomer	Boomer	Gen X		Gen Y/Millennial
1934–1945	1946–1964	1965–1968	1969–1979	1980+
Class of 1960–1971	Class of 1972–1990	Class of 1991–1994	Class of 1995–2005	Class of 2006 and beyond
Support the United Way	I am forced to support the United Way	I don't give at the office	United Way isn't "Green"	Community service is punishment
Red Cross, Peace Corps	Battered Women's shelter	Homeless Shelter	Habitat for Humanity	Teach for America
Community activities Rotary	Rotary is good for business	Rotary is a bore	What is Rotary and who cares?	Beach sweep, etc.
You must vote	Vote if it's convenient	Vote if you want to	Vote, but it's private	Vote your issues
Family first	Family and friends	Family and friends	My friends are my family	Want a multigenerational family
Quality first; buy American	Prestige first foreign is better	Get it at the Gap	Cheap: value added	Get it at Army/Navy surplus

Source: Career Strategies, Marilyn Moats Kennedy, 2004.

requirement-based portfolios. For example, at UCLA in 1986, I was required to complete the following minimums:

1 Operative dentistry—120 polished surfaces of amalgam (all completed under rubber dam), 15 direct filling gold (gold foil) restorations, and 15 composite restorations.
2 Fixed prosthodontics—35 crowns (with each student completing all of the lab work), 4 post and core build-ups, and 2 fixed partial dentures.
3 Removable prosthodontics—11 arches of dentures, of which at least 4 had to be partial dentures and 1 immediate denture.
4 Endodontics—2 molars, 2 premolars, and 2 anterior teeth.
5 Periodontics—18 complete mouth scaling and root planning patients, and 4 periodontal surgeries.

In those days, we had to sharpen our instruments before each appointment, and we had every step graded. We really knew how to make crisp line and point angles, and the restorative materials of the day required meticulous geometric configurations. Our instructors were seasoned clinicians, many of whom had come out of the military service.

Today's dental school environment is incredibly different—schools must teach students to become "competent" rather than technically accomplished—and the restorative materials have different preparation needs. Composite preparations are lesion-specific and may have irregular internal features. Class II composites, for example, do not require the sharp line and point angles of a gold foil preparation or the mechanical retention features of an amalgam. In earlier days, gold was king, and when you had to prepare a 7/8 crown with two axial grooves, an offset and a 0.2-mm bevel on the mesiobuccal cusp to keep it esthetic, it required every ounce of skill you had learned. Has this edict to make our students competent in some way deprived them of being technical masters? Not necessarily. With adhesive dentistry, every bit of attention to detail that we were expected to demonstrate in a gold foil restoration is required for a mesioocclusodistal (MOD) ceramic onlay. With modern restorative techniques—diagnosis, isolation, preparation design and execution, dentin bonding agent material science, adhesion, finishing and polishing, and developing or maintaining occlusal harmony/stability—must all be carried out with the utmost of skill and attention to detail. How then can today's student continue to learn how to be proficient?

 DOI 10.1111/j.1708-8240.2012.00522.x

When we graduated in 1986, we were encouraged to join or create study clubs. Each study club would choose a mentor who would observe members' actual live patient care on a monthly basis, or review cases with them. After a few years in private practice, my classmate and I started a study club dedicated to conservative cast and direct gold techniques. We found a master clinician, Dr. Warren Johnson of Seattle, Washington (who was recommended by Dr. Richard V. Tucker), to lead our group in South Orange County, California. Eight times a year, 10 other dentists from my community joined me in preparing and delivering conservative gold inlays under our mentor's supervision. We paid him a small honorarium, took care of his airline arrangements, and fed him well—this all started in 1991. It has been 20 years and our club is still in existence and running strong. We typically invite about 10 students from the local dental schools to observe and assist each month, as well as invite them all to join us for a dinner and critique session after the clinical operations. When I invite our students from UCLA, they say, "Doctor Stevenson, are we going to be able to see you prep a tooth?—what if you make a mistake?" I laugh and say, "I will make mistakes and through them I'll continue to learn—it's fun—it's life-long learning—it's what makes our profession great!"

At UCLA, the Study Club format is alive and well. We have student study clubs in essentially every area possible, including cast gold, esthetics, endodontics, orthodontics, and even practice management. The students have created these clubs with the full support of the faculty, and the students basically run the show. All of the clubs meet after hours or on weekends and are very popular. The Student Cast Gold Study Club at UCLA boasts 65 members from all four classes. Each class member has their own responsibilities, including photography (we use two digital SLRs), chairside assisting, typodont operator, patient operator (yes, we see real patients in this club!), and various other organizational duties. In the endodontic study club, they typically have guest private practice specialists give lectures and then conduct discussion sessions afterward. Study clubs are perhaps the best link between the traditional skills-oriented curricula of yesterday and the competency-based curricula of today. Students grow in their knowledge and skills, thus learning at a deeper level than what is possible in the mainstream school setting. The current generation of learners responds extremely well to this traditional form of education—it is perhaps one of the best blends of "the old and the new."

Along with the motivating factors and the ways in which they embrace new concepts and skills, the new generation of dental student has a completely different communication style (see Table 4). For example, when a Boomer says to a Boomer, "This needs to be done," both understand that it is *an order*, but nicely put. Likewise, when a Boomer says to a Boomer, "Would you mind?" the anticipated answer is, "No, of course not." However, when a Boomer says to a Millennial, "This needs to be done," the Millennial hears an *observation*, not an order. Boomers are astounded when they ask a Millennial, "Would you mind?" and the Millennial states quite frankly the reasons why they would mind! If the senior (Boomer) faculty understands these basic communication differences, then the educational system can function with less confusion and far less irritation to both the teacher and the learner.

According to Moats, "Millennial's learn best with videotapes and CDs. They want to manipulate data, fast-forwarding anything they don't want—or don't need—to listen to." Educators must be prepared to utilize the latest in informatics, including digital imaging, PowerPoint presentations, the Internet, and video and CDs/thumb drives of lectures. Students want to review information prior to, during, and after lectures, and they demand the information be highly visual, electronic, and highly relevant. At UCLA, instructors have been mandated to upload all of their instructional material on an Internet-based platform called "ANGEL" prior to the start of the course. This requires faculty to be well prepared; however, this may make last minute changes less likely even if the new material would enhance the educational process. The author gets around this issue by posting the most recent material in advance as required, and then re-posts lectures after they are given reflecting any last

 DOI 10.1111/j.1708-8240.2012.00522.x

TABLE 4. Communication styles

Older dentists (46–70 years old)	Younger dentists (21–45 years old)
"We're invincible as a team"	"I work best alone"
"I want, think, would like…"	"I need"
Softened style: "I'd love it if you…"	Blunt style: "Just do it…"
Long preambles	Abrupt speech patterns
Care deeply what others think	Care little about what others think
Like to process and talk about ideas and issues	"Just tell me what you want done and I'll do it"
Highly value participation and consensus	Do not participate, attend meetings, or need to hear others' opinions
Want people to want to do something, to want to be part of the team	Want people to get the results as quickly and quietly as possible; often astonished by employee feelings of discontent
Believe people can be motivated by a stirring, well-expressed idea	Believe motivation is pushing on the end of a string
Recognition means a great deal; want acceptance, popularity, group identity	Doesn't work and isn't needed. "I know what kind of job I'm doing. If a boss recognizes my work, that's nice but it's frosting on the cake."
Source: Career Strategies, Marilyn Moats Kennedy, 2004.	

minute changes. It is an extra step, but it appeases the students while allowing the presenter the flexibility to continuously enhance the lecture material.

The current classroom environment will feature the vast majority of the students with laptops on their desks, with the presenter's pre-posted lecture running simultaneously with the presentation. The students can then add comments in the "Notes" section of Keynote or PowerPoint to clarify the material. The author also makes several videos of clinical procedures and uploads them on YouTube and/or "ANGEL" for easy reference. The students may then incorporate their own blogs and social media like Facebook to share the information and make comments on the content. The entire process of releasing your original material to hyperspace (password protection minimally slows the spread) is unnerving, and may lead to plagiarism and insufficient referencing. This concern is entirely valid; however, the current class of learners expects this information to be readily available in digital format. The author has witnessed his own original material (images of cases) used by others with no explanation of how or where they acquired them nor witnessed any credit for the creator of the results being displayed so cavalierly.

Clearly, information is good, and if the learner can advance by virtue of its easy access, then students may progress more efficiently. On the other hand, if information is gained without understanding the effort required to produce it, then an unrealistic expectation and lack of appreciation for the scientific process may occur.

Indeed, we are at a crossroads in dental education, and the path we choose may already have been mandated by administrations and students alike, yet it is we who must continue to pilot the vessel. It is incumbent on the forward-thinking educator to become familiar with the current generation of learners—they are vastly different than previous generations. I would personally recommend the book *Generation Me*, by Jean Twenge PhD, as a good start to becoming enlightened with respect to this generation. In the not so or too distant future, the majority of the Baby Boomers will have retired and the Gen Xers and Millennials will be educating the next generation. What will they say of us to *their* students? What lasting impression will we leave with them? I sincerely trust that it will be one of knowledge advancement, empathy, creativity, innovation, and a sincere passion for excellence.

 DOI 10.1111/j.1708-8240.2012.00522.x

DISCLAIMER

The views expressed in this feature are solely those of the author and do not necessarily represent the opinions of the *Journal*, its Editors, or staff.

Richard G. Stevenson III, DDS, Professor of Clinical Dentistry and Chair, Division of Restorative Dentistry, UCLA School of Dentistry

REFERENCES

1. Strauss W, Howe N. Generations: the history of America's future, 1584 to 2069. New York: William Morrow; 1991.
2. Twenge JM. Generation me: why today's young Americans are more confident, assertive, entitled—and more miserable than ever before. New York: Free Press; 2006.
3. Long M. Communicating with Baby Boomers, Gen X, and Gen Y. NFP Analysts, 2009. Available at: http://www.nfp.net.au/ (accessed May 1, 2012).
4. Ryan J. The millennial generation. *San Francisco Chronicle*, December 13, 1998.
5. Tapscott D. Growing up digital. New York: McGraw-Hill; 1998, p. 94.
6. Kennedy MM. Career Strategies. 2004. Available at: http://moatskennedy.com (accessed May 1, 2012).

Reprint requests: Richard G. Stevenson III, DDS, Professor of Clinical Dentistry and Chair, Division of Restorative Dentistry, UCLA School of Dentistry, 10833 Le Conte Avenue, Room 33-009 CHS, Los Angeles, CA 90095-1668, USA; email: rstevenson@dentistry.ucla.edu

 DOI 10.1111/j.1708-8240.2012.00522.x