



Generation Z: the new kids on the block

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Conflicts of interest

I have no relevant conflicts of interest to disclose



Objectives

- Differentiate characteristics of Millennial and Generation Z learners
- Discuss the impact of Gen Z students' preferences and tendencies on medical education
- Outline potential strategies for better engaging Gen Z health professions students



What is a generation?

- Group of individuals born and living in roughly the same period
- Length 15-45 years (~20 years)
- Shared experience of world events, popular culture, and technology during formative years has common influence on adult behavior:
 - Perspectives
 - Preferences
 - Expectations
 - Communication





WARNING

- Discussions of “generations” represent generalizations
- One generational perspective is not “right” or “wrong”
- This talk does not represent advocacy for change

Characteristics of generations

- Reeves TC, Oh E. In: Handbook of Research on Educational Communication and Technology 2014:819-828
- Smola KW, Sutton CD. J Org Behav. 2002; 23(4):363-82
- Williams KC, Page RA. J Behav Studies Bus. 2011 ; 3:1-17
- www.wfmc.org/uploads/GenerationalDifferencesChart.pdf

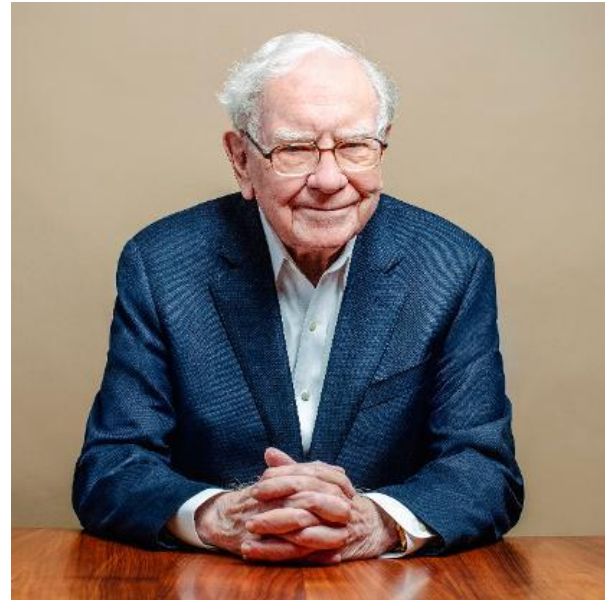
Major generations involved in medical education

- Traditionalists (b. ~1920-1945, emeritus faculty)
- Baby Boomers (b. ~1945-1965, senior faculty)
- Generation X (b. ~1965-1980, early-mid career faculty)
- Millennials (b. ~1980-2000, students/residents and early faculty)
- Generation Z (b. ~2000-2015?), soon-to-be medical students)



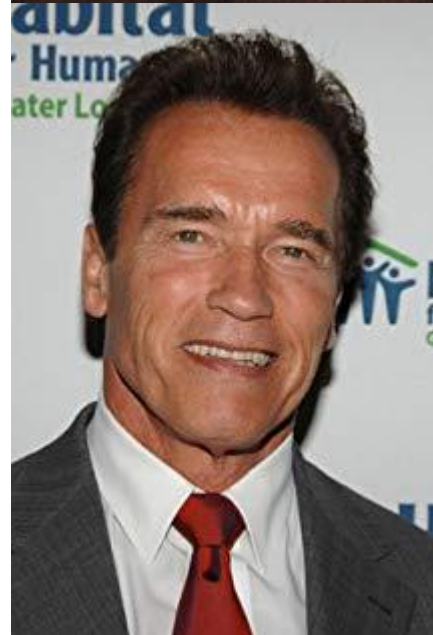
Traditionalists

- “Silent generation”
- Major world events: WWII, Great Depression, Korean War, Space Race
- Technological advances: Sputnik, color TV, polio vaccine
- Core values: Patience, loyalty, hard work
- Views on authority:
 - most senior is leader
 - rules are always to be followed
- Work ethic: “Work to live”
- Motivation: Recognition of seniority



Baby boomers

- “Me generation”
- Major world events: Vietnam, civil rights, JFK assassination, Cold War
- Technological advances: Cassette tapes, Atari
- Core values: equal rights, equal opportunity
- Views on authority:
 - Most accomplished is the leader
 - Rules are good until they conflict with desires or needs
- Work ethic: “workaholic”, career forms identity
 - “Live to work”
- Motivation: Recognition of accomplishment



Generation X

- “Latchkey generation”
- Major world events: end of Cold War, MTV, *Challenger* explosion
- Technological advances: Cell phones, personal computers, VCRs
- Core values: Independence, open communication, distrust of institutions
- Views on authority:
 - Leader demonstrates they can perform
 - Rules should help get the job done
- Work ethic: Independence, balance
 - “Work is a means to an end”
- Motivation: Flexibility to define own schedule/rules, balance with outside life



Millennials

- “Generation Y”
- Major world events: O.J. Simpson trial, Y2K, Columbine
- Technological advances: Internet, CD/DVDs
- Core values: collaboration, technology integration, input and feedback in all settings
- Views on authority:
 - Leader is the person facilitates the group and should always listen
 - Rules should make sense
- Work ethic: Balance with home life, comfortable with collaboration
 - “Work to have fun”
- Motivation: Balance, being part of a dynamic team, giving back to others



**How accurate a
description for you?**



**University of Nebraska
Medical Center**

Millennials-- where do our current learners come from?



We reap what we sow...



Understanding origins of some millennial attitudes

- Highly scheduled– playdates, organized extracurricular activities
- Input into family environment
- Helicopter (or lawn mower) parenting
- Participation in the team the most important thing
- "You can be anything you want to be"
- Technology as a part of a life

- Howe N. School Admin 2010; 67(1):18-23
- Fass PS. Encyclopedia of Children and Childhood in History and Society. 2003.
- Stillman D, Gen Z Work. 2017



Understanding origins of some Millennial attitudes

- Highly scheduled– playdates, organized extracurricular activities → • Need clear, explicit expectations
- Input into family environment → • Authority figures should listen to their feedback, no off limits topics
- Helicopter parenting → • Immediate, specific feedback and crisis support
- Participation in the team the most important thing → • Collaboration
- "You can be anything you want to be" → • High self esteem
- Technology as a part of a life → • Electronic communication preferences



Debunking Millennial myths

59% are driven by competition, compared with 50% of baby-boomers

58% compare their performance with their peers (48% for other generations)

41% of millennials do what their manager tells them “even when they can’t see the reason for it” (30% of baby-boomers, 30% of Generation X)

63% feel responsible to care for an elderly parent (55 percent of Boomers)

>50% are willing to work long hours and weekends to achieve career success.

At least one third work every day of vacations

Sources: *Economist*, *Forbes*, Nielsen surveys



Generation Z ≠ Millennials

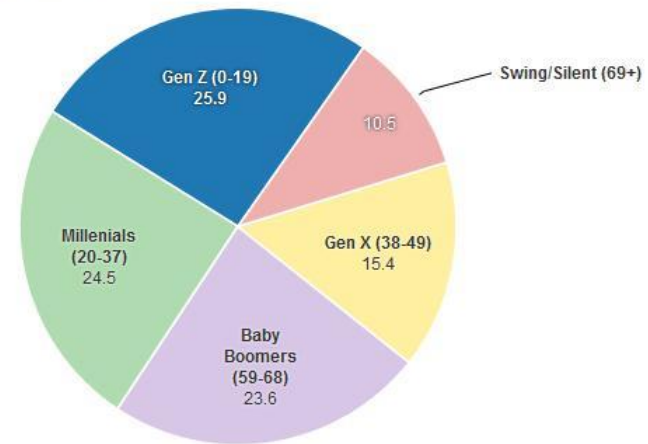


"Generation Z"

- A.k.a. Post-Millennials, Pivotal, iGen, Plurals, Founders, Homeland Generation
- Born 1995-2000 to present
- Largest percentage of U.S. population
 - 4:10 consumers
- >\$44 billion/yr discretionary spending, influence ~\$200B

Generational Population Breakdown

American populous by age



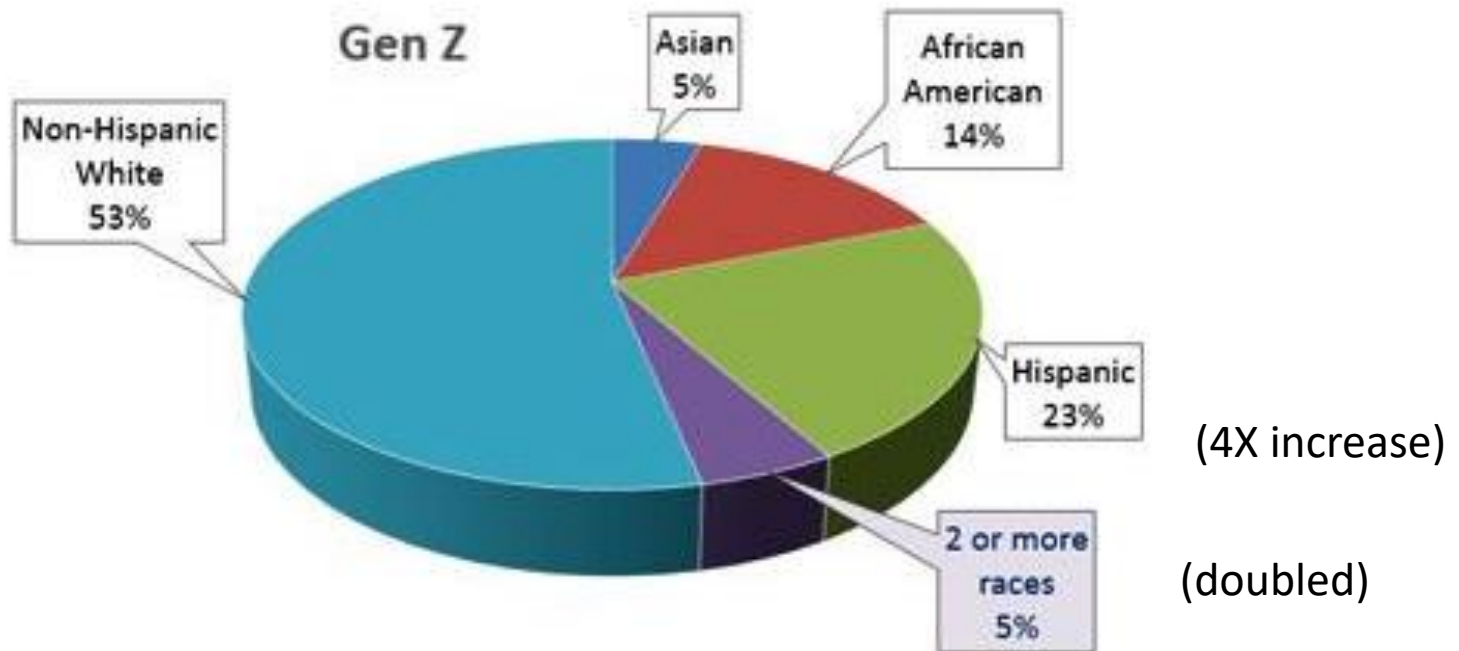
Created with [Datawrapper](#)

Source: [Sparks & Honey](#)

- Fromm J, et al. Getting to know Gen-Z: How the pivotal generation is different than Millennials. 2016; www.millennialmarketing.com
- Hawkins BD. NEA Today July 2, 2015
- <https://www.auction.com/blog/new-retail-development-concept-targets-generation-z/>



Demographics



Source: U.S. Census, ACS 2011-13 3 Year Estimates

Taken from: www.mediapost.com



Background

- Post 9/11 society
- Events
 - Great Recession
 - Political polarization
 - Mass shootings/terrorism
 - Multiple foreign wars
 - Strides for equality (gay marriage, African American president)
- Media more concentrated on negativity



Gen Z parents

- Raised by Generation X
 - Helicopter parenting --> "CIA parenting"
 - Technology fluent
 - Sharing in trends
- Espousing own tendencies
 - Independence
 - Teaching how to deal with failure
 - Skepticism with the system --> "find your own way"
 - Crafting personalized majors
 - Entrepreneurism

Source: Stillman D, Gen Z at work



Views vs. Millennials

- More pragmatic, skeptical
 - "Least likely to believe in American Dream"
 - Expect to work harder and pay dues
 - More risk averse/frugal
- Equality is non-negotiable
- High confidence
 - 20% more interested in being at the top of their field



Source: <https://www.ecampusnews.com/2018/08/16/higher-ed-leaders-generation-z/2/>



Gen Z and Technology



"Phigital" (n.)-- state where every aspect of the physical world has a digital counterpart and are equivalent

Source: Stillman D, Gen Z at Work. 2017





Technology and Gen Z

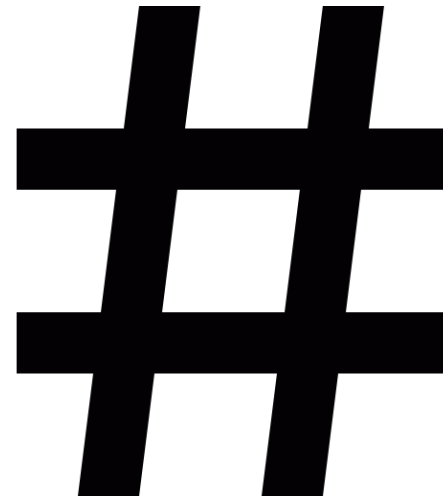
- Always known internet and social media
- >50% spend more than 9 hours on electronic media
- >75% with smartphones
 - Access every 7 minutes
 - “FOMO”
 - Fromm J, et al. Getting to know Gen-Z: How the pivotal generation is different than Millennials. 2016; www.millennialmarketing.com
 - Ford T. 5 tips for teaching generation Z in college. 2015| Tophatblog.com



Technology and Gen Z



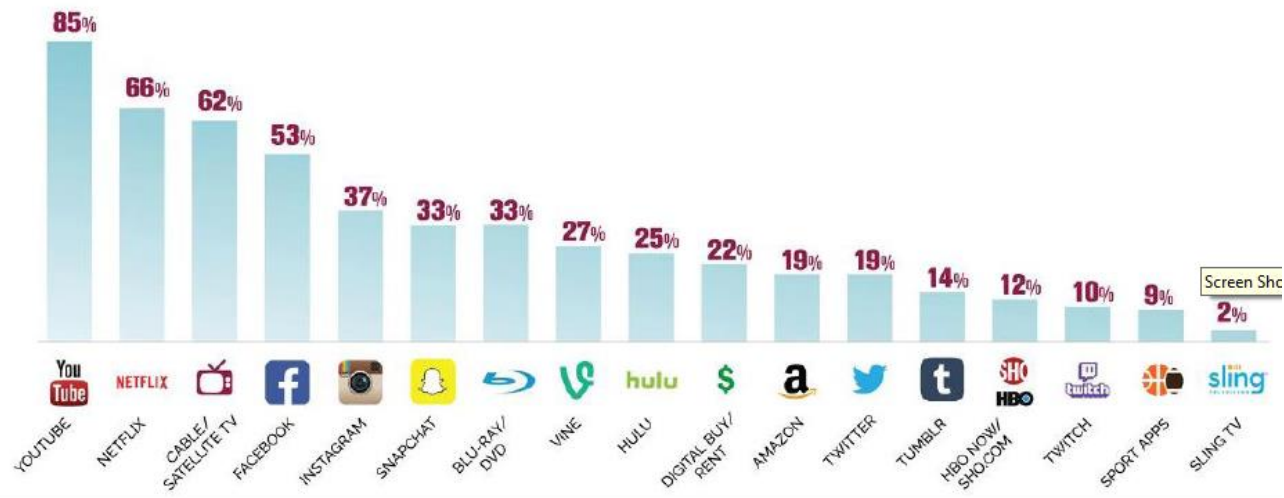
google
(verb)



Videos, videos, videos

VIDEO SOURCES WATCHED (% 13-24 year olds)

Source: Defy Media



- Average of 68 videos per day
- 95% of Gen Z use YouTube daily, 50% “cannot live without it”
- 66-85% regularly use YouTube for “How to” information

Sources: University Professional and Continuing Education Association
<https://geomarketing.com>



Content creators

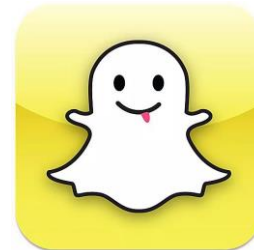
- “Curated self”
- 65% regularly create content all forms of social media
- At least 25% post videos weekly (26% of Boomers/Gen X have never posted one)



musical.ly



TikTok



Sources: www.visioncritical.com
www.millennialmarketing.com



Gaming

- Average 1.21 hours daily
- **Customizability, online rewards, immediate feedback**
- Multiplayer options most popular

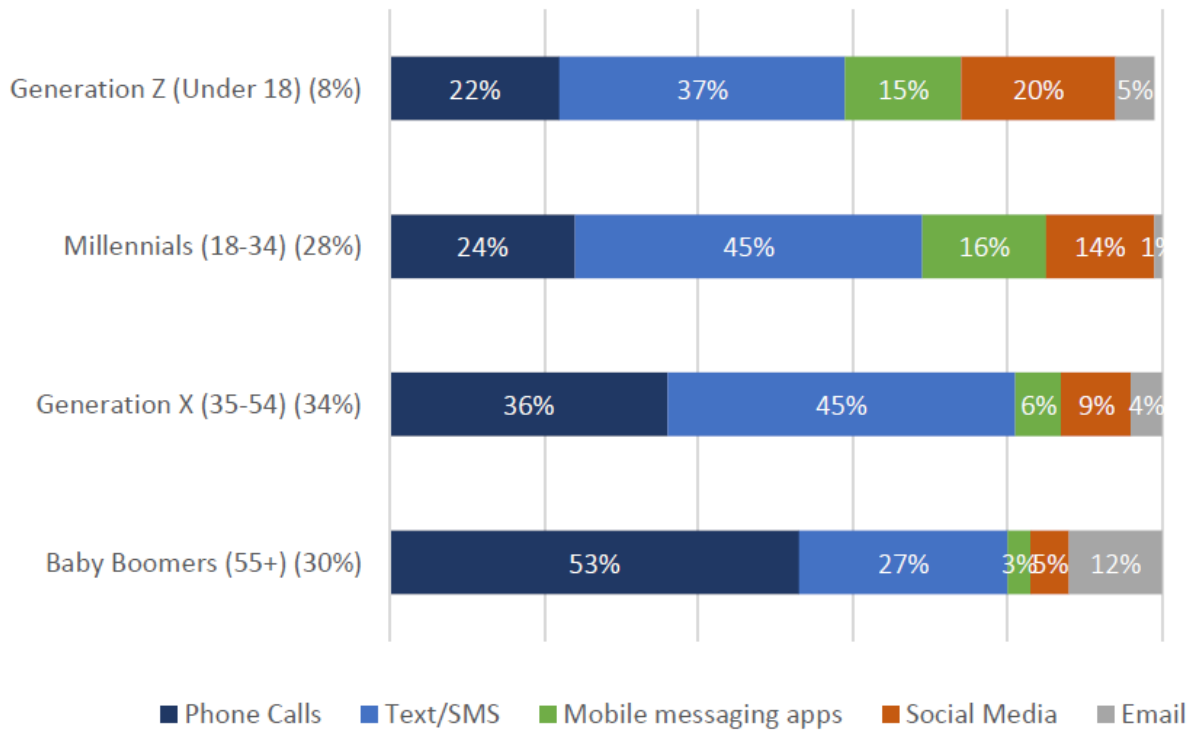


Source: <https://pctechmag.com/2018/04/how-different-generations-play-video-games-from-platforms-to-genres/>



Communication preferences

How would you say you communicate most with your friends and family?



Source: Civic Science
Weighted according to U.S. Census figures for gender and age, 13 and older
109,552 responses from 8/26/16 to 8/25/17



Social media preferences

Generation Z's Glossary of What Digital Communication and Social Media Means to Them



Email – Talking to old people without a stamp.



Facebook – Where my parents think I am at. My alter ego.



Instagram – Where my real pictures are (that I don't want my parents to see).



YouTube – My primary TV and source to stream everything.



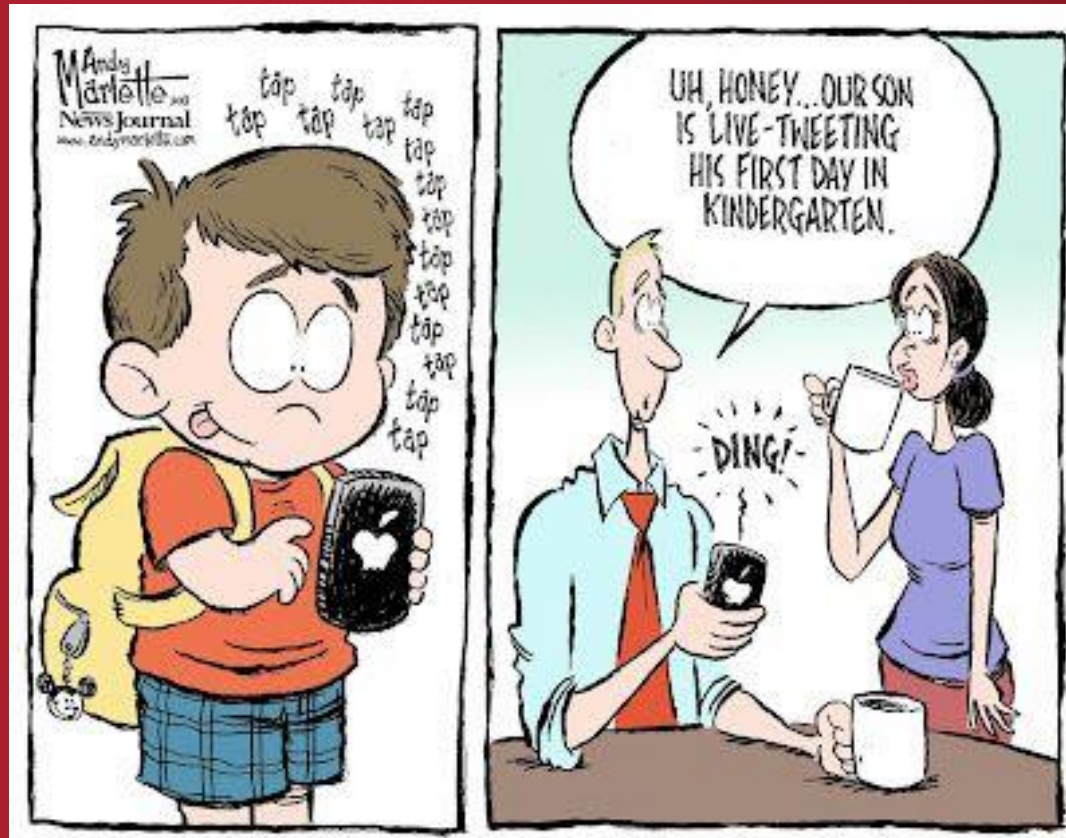
Snapchat – No permanent record of my conversations with my closest friends.



Twitter – My reason to complain and to listen to my friends complain.



Lessons learned from our predecessors



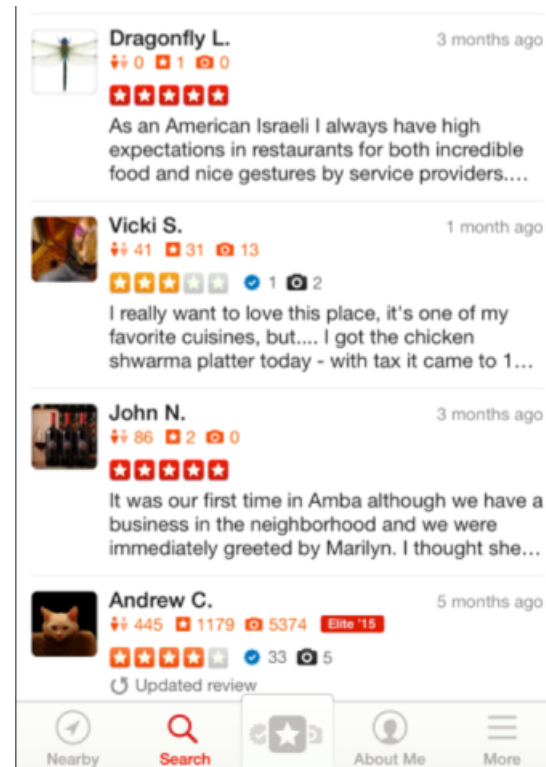
Preferences per the business community

- Customization of consumed products
- Convenience: on-demand, low barrier access to all information
- “Bite-sized” chunks of information
- Seamlessly transition from personal to work/educational activities



Preferences from the business community

- Personal relationships a priority
- Face-to-face communication (in person or online) preferred over email
- Feedback is critical
 - giving, receiving, and reviewing
 - Immediate, frequent



Source: www.accenture.com



From undergraduate experience: learning trends

- Tendency for “DIY”, multichannel information gathering
- Era of pushed information and “hyperlinks” may impact ability to form conceptual connections
- Relative difficulty distinguishing fact from opinion online
- Higher tendency to task-switch
 - 90% of college students text during class, 70% texted 12X/class
 - 66% of college students using laptops for non-class activities
 - Decreased ability to attend to single source (“8 second filter”)

Sources:

Computers in Human Behavior 53 (2015) 63–70.

Time, May 14, 2015

<https://www.mheducation.com/highered/ideas-new/teaching-igen-students.html>



Potential strategies to connect with Gen Z



Curriculum for Gen Z

- Skills to stress
 - Linkage of concepts
 - Framing of questions
 - Vetting of online content
 - Providing and responding to feedback



Pedagogy for Gen Z



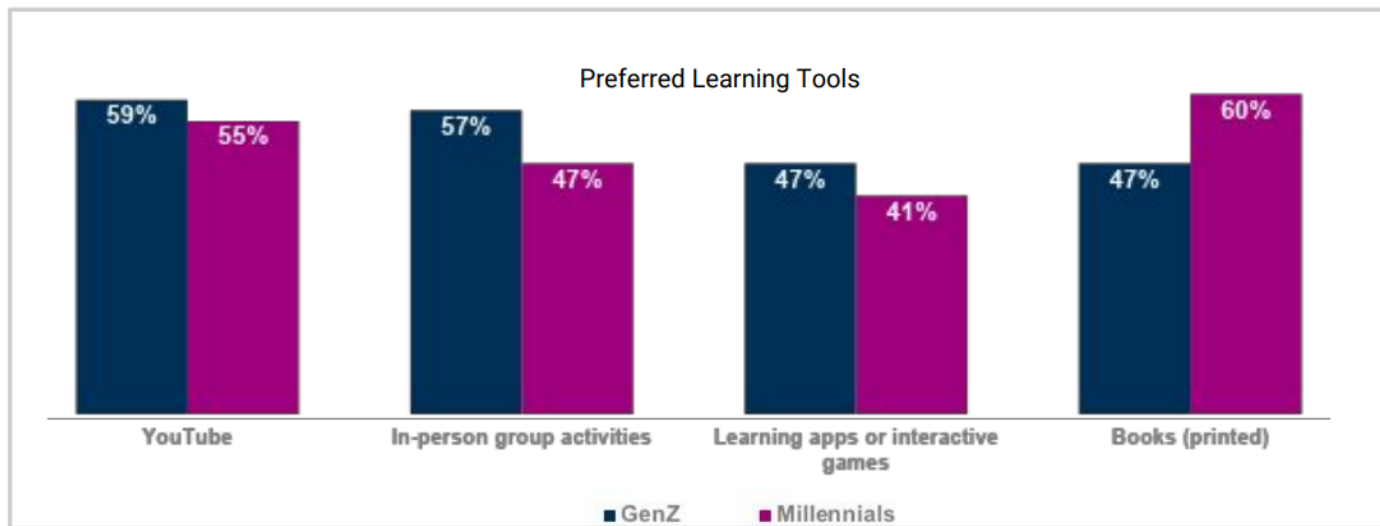
Image credit: davidsmith.wordpress.com



Give me a clip, not a book

Preferences for YouTube, apps & videos translates to preferred ways of learning

GenZ is more likely to prefer YouTube or Apps to Millennials, who prefer printed books for learning.



- Videos most preferred method of information acquisition
- 1 out of 3 regularly watch lessons on line
- <50% prefer printed material

Sources: <https://www.pearson.com>
<https://www.readyeducation.com>



Your resources may not be primary...

← → ↻ <https://www.youtube.com/watch?v=FNVvQ788wzk>

YouTube

The diagram illustrates the clotting cascade. At the top, a blood vessel is shown with 'endo. cells' and 'platelets' on the wall. 'thrombin' is shown acting on 'fibrinogen' to form 'fibrin', which then forms a 'strand'. A separate reaction shows 'Prothrombin' being converted to 'thrombin'. To the right, a vertical flow shows 'XII' being converted to 'XI'.

Coagulation cascade | Human anatomy and physiology | Health & Medicine | Khan Academy
622,630 views

4K 94 SHARE ...



But... guidance may be needed

1.	First Aid for the USMLE Step 1	63.6
2.	UWorld	52.1
3.	Boards and Beyond	39.7
4.	SketchyMicro	39.7
5.	SketchyPharm	39.3
6.	Pathoma	35.3
7.	Fundamentals of Pathology	29.2
8.	Anki	26.6
9.	USMLE-Rx Qmax	10.7
10.	SketchyPath	10.0
11.	Kaplan Qbank	7.9
12.	Board Review Series Physiology	5.6
13.	First Aid Cases for the USMLE Step 1	4.2
14.	AMBOSS	4.0
15.	Physeio	3.3



Gen Z and online educational resources

- Strategies
 - Increased awareness of what is utilized
 - Instruction on vetting content
 - Curating resources
 - Incorporation into lessons



-	-	-	-	-	-	-	Disc. Index	0.07	0.08	0.33	0.23	0.09	0.00	0.03	0.00	0.05	0.12	-	-
-	-	-	-	-	-	-	Upper 27%	0.07	0.08	0.33	0.23	0.09	0.00	0.03	0.00	0.05	0.12	-	-
-	-	-	-	-	-	-	Lower 27%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-

Performance History: # Correct: 0 # Incorrect: 119 # Not Attempted: 0 Difficulty: 0

Q: If you are NOT in non-required class, where are you usually and what are you doing during lecture time? (select up to 3)

- * A: I always attend non-required class
- * B: At home not studying
- * C: At home studying
- * D: On campus in the Michael Sorrell Center studying
- * E: On campus in another building (College of Pharmacy, McGoogan Library, etc) studying
- * F: At a family/friend/significant other's house not studying
- * G: At a family/friend/significant other's house studying
- * H: At a public place off campus (coffee shop, public library, etc) not studying
- * I: At a public place off campus (coffee shop, public library, etc) studying
- * J: Doing other activities (i.e. exercising, groceries, etc)

Description: Talmon - General Lecture Behavior 5

14	0.00	0.00%	0.00%	0.00	0.00	A,B,C,D,E,F,G,	*110	*38	*14	*7	*1	*60	*11	*1	*1	*20	1	00:59
Question ID / Rev:	10855 / 1					% Selected	92.44	31.93	11.76	5.88	0.84	50.42	9.24	0.84	0.84	16.81	0.84	
						Point Biserial (rpb)	0.03	-0.06	-0.03	-0.02	-0.01	-0.09	-0.03	-0.01	-0.01	-0.04		
						Disc. Index	0.31	0.11	0.04	0.02	0.00	0.17	0.03	0.00	0.00	0.06		
						Upper 27%	0.31	0.11	0.04	0.02	0.00	0.17	0.03	0.00	0.00	0.06		
						Lower 27%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Performance History: # Correct: 0 # Incorrect: 118 # Not Attempted: 1 Difficulty: 0

Q: Which of the following resources do you most regularly use to review/learn lecture material? (select up to 3)

- * A: Notes you took from lecture
- * B: First Aid for the USMLE Step 1
- * C: Other review book (BRS, Pathoma book, Rapid Review, etc) (Please list in Notes/Feedback)
- * D: Textbooks required by syllabi
- * E: Textbooks not required by syllabi (Please list in Notes/Feedback)
- * F: Self-made flashcards (paper notecards, Anki, Quizlet, etc)
- * G: Pre-made flashcards (Zanki, Brosencephalon, Pepper, Lightyear, etc) (Please list in Notes/Feedback)
- * H: UWorld Qbank questions and explanations
- * I: Other Qbank questions and explanations (USMLERx, Kaplan, AMBOSS, etc) (Please list in Notes/Feedback)
- * J: Pathoma video series

Description: Talmon - General Lecture Behavior 8





Pedagogy for Gen Z

Take away vs. integrate devices

- Use of social media
- Gamification
- Student-created content



Sources: Hope J. Get your campus ready for Generation Z. Dean Provost. 2016; 17(8):1-7.

<https://campustechnology.com/articles/2017/08/09/5-simple-ways-to-reach-gen-z.aspx>



Pedagogy for Gen Z

- Establishing personal relationships of importance
 - Live experiences/interactions
- Lessons emphasizing practicality and personal experiences
- Incorporation of reflection activities
- Less group-work oriented than Millennials
 - Individual/self-directed learning combined with group activities

Sources: www.pearson.com

- Hope J. Get your campus ready for Generation Z. Dean Provost. 2016; 17(8):1-7



Communicating with Gen Z

- Trends noted:
 - Prefer short, frequent messages
 - Scheduled in person interactions important (not necessarily in “meatspace”)
- “Go where they are”
 - Online office hours
 - Announcements via group texts/social media

Sources: Hope J. Get your campus ready for Generation Z. Dean Provost.

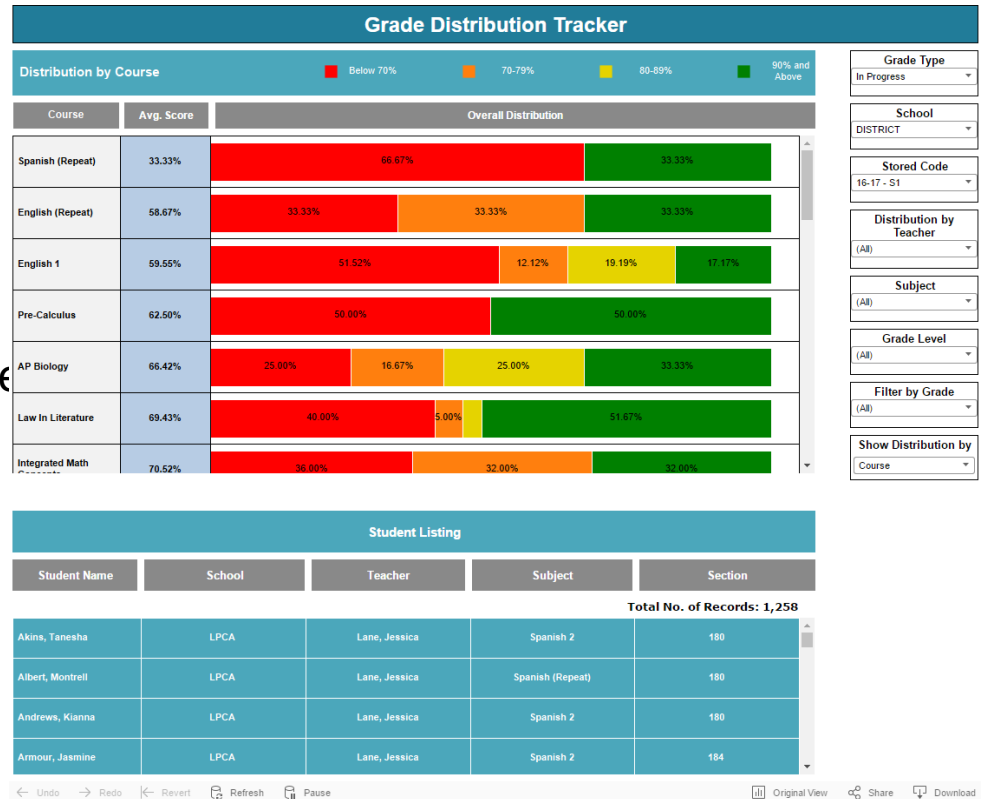
2016; 17(8):1-7

<https://www.leadsquared.com/how-higher-education-communicates-with-gen-z/>



Feedback

- Used to real-time, customized indicators of progress in prior education
- Semiannual/end of experience reviews more difficult to interpret
 - Task by task?
- Strategies
 - Dashboards
 - Frequent, quick communications (email, short conversation)
 - "Soundbites"



Recruiting Generation Z

- Top concerns:
 - Job market (88%)
 - Student debt (66%)
- Perform extensive research (including students' social media)
- Respond best to personalized marketing
- Looking for
 - Technology incorporation
 - Customization of educational course/career journey
 - Ability to pursue "side interests"

Sources: <https://www.forbes.com/>

Stillman D. Gen Z at Work. 2017



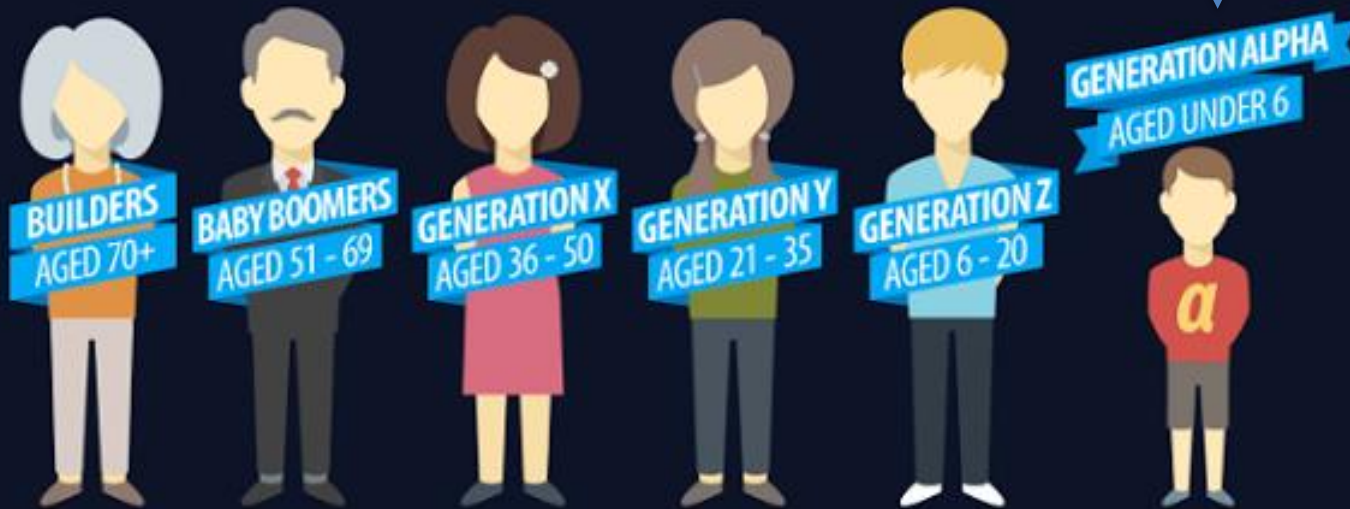
Summary

- Gen Z and Millennials are different
- Gen Z learners will likely:
 - Demand technology use/integration but in concert with relationship with educators
 - Utilize multiple outside resources (yours might not be primary) and need assistance with vetting content
 - Seek means to receive, give, and review real time feedback
- They may prefer:
 - Instruction with video components
 - Blending with social media
 - Group work, as long as it is blended with an individual component



What's next?

THE GENERATIONS





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