

Understanding Generation Z: Instructional Strategies for Engaging Generation Z in the Classroom and Preparing them for the Workplace

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Abstract

The main issue addressed in this paper is what pedagogical delivery methods increase Generation Z engagement in the classroom, which, in turn, better prepares them for the workforce?

The methodology for this research was a literature review and shared experience from the author's more than 20 years of teaching at a university level. The review included researching characteristics, strengths, and weaknesses of Generation Z students and comparing them to the previous generation of students (Millennials/Generation Y) to serve as a basis for recommending appropriate instructional strategies to engage them in the classroom and ready them for the workplace.

The study describes how Generation Z students learn and recommends several pedagogical delivery methods for engaging them, whether online, in the classroom, or in hybrid learning modes. The recommended teaching strategies are linked to the profile of Generation Z. Generation Z, known as digital natives, learn through technology and enjoy practical learning that will help prepare them for their careers.

The study also recommends faculty training to bridge the gap between the generational cohorts of faculty and the Generation Z student body and identifies impacts on universities of the changing student demographics.

Keywords

Digital Natives, Generation Z, Generational Cohorts, Preparing for the Workplace, Teaching Strategies, Technology.

INTRODUCTION

As the demographics of our students change, we must be prepared to meet the challenges of teaching them in ways that best engage them to learn. Prior to the Millennials, teaching was not as affected by technology as it is today. Millennials were adept at technology, but they were born between 1981 and 1996, a period of rapid technological innovation that included the introduction of the Internet and computers on every desk at work and eventually, the introduction of the iPhone in 2007. Most Millennials (Generation Y) have now graduated from university and the following cohort, Generation Z students, have already entered universities and colleges and will be our main student body until about 2035. This is the first generation of students born into the technological world and they do not know life before the Internet, smartphones, social media, multimedia, etc. [1] They are followed by Generation Alpha, who will enter universities and colleges around 2030 and are even more adept at technology than their predecessors.

Purpose

The main issue addressed in this paper is what pedagogical delivery methods increase Generation Z engagement in the classroom, which in turn, better prepares them for the workforce? The paper reviews literature to understand the characteristics, strengths, and weaknesses of Generation Z students, compares them to the previous generation of

students (Millennials), examines the gap between Generation Z students and those teaching them, synthesizes this information to recommend instructional strategies for engaging Gen Z to prepare them for the workplace, and looks ahead to next steps including starting to prepare for the next cohort, Generation Alpha.

Methods

This study reviewed literature about Generation Z's characteristics, the differences between Generation Y (Millennials) and Generation Z, teaching strategies for engaging Generation Z, and characteristics of Generation Alpha. It also reviewed literature related to the impact of Covid-19 and digital exposure on Generation Z and how those factors affect Generation Z as students. The recommendations build on previous research to recommend instructional delivery methods that capitalize on the strengths of Generation Z and support their weaknesses.

Defining Generational Cohorts

"Each generation is shaped by its own unique historical context and cultural experiences, creating a shared perspective about the world that is different from their elders [2]."

What are generational cohorts and why are we interested in them? Generational cohorts are groups of people with similar experiences during their growing up years [3] [4] [5]. They are defined by their birth year because generations grow up and age in groups and are influenced by the world events,

cultural norms, economics, attitudes, and motivations of the time. Because each generation shares the same period in history and experiences the same world events, the same music, the same movies, they see the world similarly and develop a unique generational culture including ethics and values [6].

The generational cohorts can broadly be summarized as follows:

- Traditionalists (born 1901 - 1944) who value authority and a top-down management approach; (Sometimes broken into The Greatest Generation (born between 1901 and 1924) and The Silent Generation (born 1925-1942).
- Baby Boomers (born 1945 – 1965) tend to be workaholics.
- Generation X (born 1967 – 1979) respect authority and value work-life balance.
- Generation Y (born 1980 – 1995) grew up in prosperity and are comfortable with technology.
- Generation Z (born 1995 - 2012) are digital natives and fast decision makers [7]; and
- Generation Alpha (born after 2010/2012) will be the most technologically literate to date and are comfortable virtually but not so much with human interaction [8].

These generational cohorts affect how individuals behave as students and how they prefer to learn. It is important to note that categorizing people into groups is a form of stereotyping. While it is useful for studying demographics, target markets, etc., not every member of a classification or group will adhere to the generalizations made. However, research shows several commonalities and characteristics that are useful in working with and understanding generational

cohorts.

Reference [6] states,

“Because of generational differences, when you pass out a syllabus on the first day of the class, the Baby Boomer student will immediately go to the page that depicts how the grade will be determined because boomers are preoccupied with grades; The Gen Xer will go to the page that lists all of the assignments and tests because they want to know what they have to do to pass the course; and the millennial student will go to the course outcomes and teaching methods section because they are hungry for information that is presented in an entertaining way.”

The Generation Power Index [2] [9] surveyed respondents to determine key events that most impacted their lives. The sample was made up of US respondents. The Silent Generation identified World Wars I and II as being impactful to them, as well as 9/11, which happened much later in their lives. In fact, the Silent Generation, Baby Boomers, Generation X, and the Millennials all identified 9/11 as the most impactful event in their lives. The Silent Generation, Baby Boomers and Generation X included the JFK assassination and Generation X included the MLK assassination. The only natural disaster included in the selections was Hurricane Katrina, identified by Generation X and Millennials [9]. These two cohorts also included the Iraq/Afghanistan wars and school shootings [9]. At the time of the research, it was premature to include Generations Z and Alpha as they were very young; however, we might speculate that the 2008 recession, numerous school shootings, global warming, the covid-19 pandemic, the gig economy, and the January 6 insurrection may have a lasting influence on these cohorts.

Table 1. Summarizes the generational cohorts’ characteristics

Summary of Generational Cohorts							
	Traditionalists (1901-1945)						
	Greatest Generation	Silent Generation	Baby Boomers	Generation X	Generation Y	Generation Z	Generation Alpha
Born Between	1901-1927	1928-1945	1946-1964	1965-1979/80	1980/81-1994/6	1997-2012	2012-2025
Current Age Range	96-122	78-95	59-77	44-58	27-43	12-26	11 and younger
Generation Size		18 million in US	71.6 million in US	65.2 million in US	72.1 Million in US	68 Million in US	48 Million and growing in US
% of US Population (per Statista.com)		5.76%	21.16%	19.83%	21.75%	20.67%	13%
Nicknames (content from various sources in references list)	• Traditionalists, • Veterans	• Traditionalists, • Veterans	• Boomers	• MTV Gen • Latchkey Kids • Busters	• Millennials • Generation Me • Generation W • Echo Boomers • Generation iY (later Millennials 1990 - 1996)	• Post-Millennials • Homeland Generation • Digital Native, • Screensters • Snowflake Generation • Zeds • Generation 2020 • iGeneration • Internet Generation	• Generation Glass • Global Generation • Mini Millennials • iGeneration

Summary of Generational Cohorts							
	Traditionalists (1901-1945)						
	Greatest Generation	Silent Generation	Baby Boomers	Generation X	Generation Y	Generation Z	Generation Alpha
						<ul style="list-style-type: none"> • Gen Y-Fi • Net Generation • Mobile Mavens • Generation iY (younger Gen Z) 	
Defining Historical Events as cited by Generational Power Index 2021 and VisualCapitalist.com		<ul style="list-style-type: none"> • 9/11 • WWII • JFK Assassination, • Vietnam War • Moon landing • Obama election • Tech revolution • Civil rights movement • Korean War • Iraq/Afghanistan wars • stock market crash of 1929 • "dirty thirties" 	<ul style="list-style-type: none"> • • 9/11 • JFK Assassination • Vietnam War • Obama election • Moon Landing • Tech revolution • Civil rights movement • Watergate • Fall of Berlin Wall/end of Cold War • MLK assassination • Iraq/Afghanistan wars 	<ul style="list-style-type: none"> • 9/11 • Obama election • Fall of Berlin Wall/end of Cold War • Tech revolution • Iraq/Afghanistan wars • Gulf War • Challenger disaster • Gay marriage • Hurricane Katrina • Columbine shooting • Orlando shooting • Oklahoma City bombing 	<ul style="list-style-type: none"> • 9/11 • Obama election • Iraq/Afghanistan wars • Gay marriage • Tech revolution • Orlando shooting • Hurricane Katrina • Columbine shooting • Bin Laden • Sandy Hook • Boston Marathon bombing • Great recession of 2008 • Ukraine War • Covid-19 • Jan 6 Insurrection 	<ul style="list-style-type: none"> • School shootings too numerous to list • Ukraine War • Jan 6 Insurrection • Global recession • global warming • rise of mobile devices & cloud computing • Hurricanes Katrina & Sandy • 9/11 • wars in Iraq and Afghanistan • Covid-19 	<ul style="list-style-type: none"> • Children of Generation X and Generation Y • Covid-19 • Numerous school and other mass shootings
Characteristics (content from various sources in references list attached)	Make do or do without	<ul style="list-style-type: none"> • dependable • straightforward • tactful • loyal 		<ul style="list-style-type: none"> • flexible • informal • skeptical • independent 	<ul style="list-style-type: none"> • "me-centric" • self-interested • entitled • overconfident • unstructured 	<ul style="list-style-type: none"> • "we-centric" • tech savvy, • multi-task even faster, • think in 4D, not 3D, • fast decision makers, • highly connected • responsible • open minded • thoughtful • compassionate 	<ul style="list-style-type: none"> • comfortable with virtual connection but not so much with interacting with humans • expected to mirror millennial parents
Learning Preferences (Seemiller & Grace, 2016)			<ul style="list-style-type: none"> • Grades are important 	<ul style="list-style-type: none"> • Assignments are important - what do I have to get done to pass? 	<ul style="list-style-type: none"> • Poor math skills due to standard testing • Looking for entertaining delivery of course content • First to have computers in the classroom • Multi taskers • Use technology 	<ul style="list-style-type: none"> • shorter attention span • read less than 20% of text • used to immediate feedback • influence of social media - need formal communication & writing training, • lack creativity • lack creative thinking & problem-solving skills • learn best through observation and hands on • like videos • want everything 	<ul style="list-style-type: none"> • most connected, yet will feel alone • expected to mirror Millennial parents

Summary of Generational Cohorts							
	Traditionalists (1901-1945)						
	Greatest Generation	Silent Generation	Baby Boomers	Generation X	Generation Y	Generation Z	Generation Alpha
						online & on demand • brain structure is altered due to viewing complex graphics	
Instructional Strategies (content for Generation Z is a summary of content from various sources in references list)	<ul style="list-style-type: none"> formal structured lessons delivered by instructors 	<ul style="list-style-type: none"> formal structured lessons delivered by instructors 	<ul style="list-style-type: none"> formal structured lessons delivered by instructors 	<ul style="list-style-type: none"> work in groups in a relaxed interactive atmosphere 	<ul style="list-style-type: none"> multi modal multi sensory lessons 	<ul style="list-style-type: none"> need real-life knowledge that can be related to their career choices games motivated by encouragement small groups/social learning develop online relationships fast delivery complex graphics integrated multimedia learn through observation and doing learner-centered personalized spaces designed for interactive learning library research support delivered by latest technology. 	
Work Preferences (per Purdue Global, "Generational Differences in the Workplace")	<ul style="list-style-type: none"> value authority & top-down management hard working 	<ul style="list-style-type: none"> accepting and adaptable value job security motivated by respect, & recognition long-term employees 	<ul style="list-style-type: none"> optimistic competitive workaholic team-oriented like to work toward specific goals and deadlines good mentors receive coaching-style feedback well loyal gain self-esteem from careers experienced well organized expect some degree of deference to their opinions workaholics 	<ul style="list-style-type: none"> diversity work-life balance personal interests more important than company interests like immediate feedback prefer flexible work schedules opportunities for personal development resistant to changes that affect personal lives 	<ul style="list-style-type: none"> comfortable with authority will work as hard as needed importance of work-life balance flexible schedules motivated by responsibility motivated by being managed and rewarded by performance/ results motivated by good management enjoy unique work experiences like immediate feedback 	<ul style="list-style-type: none"> self-confident optimistic view of professional life entrepreneurial don't like teamwork loyal responsible work-life balance, flex time, shorter work weeks career-oriented want to have impact on the world work with passion motivated by achievement, practicality, relevance like to work on multiple projects at once 	
Worldview / View of the Future (per Purdue Global, "Generational Differences in the Workplace")	<ul style="list-style-type: none"> obedience/ collectivism over 	<ul style="list-style-type: none"> obedience/ collectivism over individualism 	<ul style="list-style-type: none"> believe that achievement results from 'paying your 	<ul style="list-style-type: none"> independent not optimistic 	<ul style="list-style-type: none"> looking for challenge & growth & fun 	<ul style="list-style-type: none"> want to make a difference want to solve the 	

Summary of Generational Cohorts							
Traditionalists (1901-1945)							
	Greatest Generation	Silent Generation	Baby Boomers	Generation X	Generation Y	Generation Z	Generation Alpha
Differences in the Workplace")	individualism • age and seniority are synonymous • advancement is through the traditional hierarchy	• age and seniority are synonymous • advancement is through the traditional hierarchy	dues.' • sacrifice to gain success.			world's problems.	

THE DIFFERENCES BETWEEN MILLENNIALS (GENERATION Y) AND GENERATION Z

Much has been written about Generation Y/Millennials and how to teach them. The next generation, Generation Z, is similar but different. There is continuity, but it is important to understand the differences to best meet the needs of the current classroom demographics.

Millennials and Generation Z are different from the generations before them because they are used to using technology and multitasking more than their predecessors. They want to learn by using technology, so those who teach them will benefit from adjusting to ways that engage them in a more interactive and technology-friendly classroom, whether online, physical, or hybrid [10]. Millennials were born between 1980 and 1996. At this point, most of them have left college and university and entered the workforce. Today's college and university students are from Generation Z, who were born from 1996 to 2012. The oldest of Generation Z started to enter universities and colleges in 2014 and they will continue to comprise most of the student body until 2030 when Generation Alpha reaches college age.

Both Millennials and Generation Z are referred to as "Digital Natives." [11] Millennials were the first students to have computers in their classrooms [10], and they were teenagers by the time everyone had a smart phone. However, Generation Z is the first generation to be born into a fully digital world. As a result, Gen Z is used to everything being available online and on demand. Generation Z has also always experienced personalized information because they have grown up in the age of algorithms, personalized news feeds, and social media. Because it has always been there, they expect it. According to Reference [10], Generation Z students learn by observation and experience more than from reading textbooks. Generation Z students prefer videos to reading online, and they also prefer to leave video messages over emails or texts. Gen Z'ers are very comfortable online, and their social life takes place in social media [12].

Millennials came to university unprepared to move on in math, because of overuse of standardized testing of their generation [13] [14]. While Millennials struggled with math skills, Gen Zers are more likely to lack the critical thinking skills they need to develop their ability to critically analyze data and solve problems [14].

Generation Z is also more driven to have successful careers than are the millennials, who were impacted by 9/11 of 2001 and the Great Recession of 2008. [12] [10]. The climate of our time during the growing up years of both Millennials and Generation Z has included global terrorism and economic recession. Information streams in real time via social media and we have seen the emergence of social media as the organizing media for events such as the women's march, demonstrations against the Ukraine-Russia war, the Hamas-Israel war, demonstrations for and against the overturning of Roe v. Wade by the US supreme court, the January 6 insurrection in the US, the Truckers' convoy in Canada, environmental protests, antivax protests, etc.

According to Reference [15] "Rather than the "me-centric" spirit attributed by some to Millennials, the Z Generation is considered more "we-centric." Reference [15] described Millennials as self-interested, entitled, over-confident, and unstructured, whereas they profiled Generation Z as responsible, open-minded, thoughtful, loyal, entrepreneurial, and compassionate based on a study in which Generation Z described themselves. Reference [15] noted that there were some conflicts in the self-views of Generation Zs, in that they see themselves as entrepreneurial, but they may describe themselves as lacking creativity and they also described themselves as both compassionate and critical of their peers.

GENERATION Z

Profiling Generation Z

Generation Z is made up of individuals born between 1995/6 and 2010/12. They are the students in our classrooms today from primary school to graduate school. The older ones began entering college in 2013; the younger ones will graduate high school and enter college in about 2030. According to Reference [16], many Generation Zers are choosing shorter programs that provide shorter pathways to careers, such as diploma programs, mentorships, and internships. Many are choosing not to attend university. Reference [17] notes an "alarming decline in the number of high school graduates willing to invest the time and money it takes to go to college."

Generation Z is the first generation that was born into a world of technology. Since birth, they have been connected to the Internet and have been steeped in technology. [18] [20].

Reference [20] reported that the brains of Generation Z are structurally different because of processing complex visual imagery making it easier for them to learn visually through games and team projects rather than from listening to lectures. Technology has affected the attention span of Gen Zers [20]. This generation does not take notes; instead, they rely on recordings and Google. They expect to be entertained in class, and they expect immediate responses. They are also excellent at multitasking, and they are independent, and can find the answers to their questions on Google.

Strengths

Digital natives, Tech Savvy, Think in 4 D

Digital natives are defined as, “those who have been exposed to and use digital technologies throughout their lives [14].” This means that they can easily adapt to new technology and have what is referred to as digital literacy, which encompasses photo-visual literacy, reproduction literacy, branching literacy, information literacy, and socio-emotional literacy. Information literacy is the ability to use and interpret web-based data. Photo-visual literacy is the ability to recognize and comprehend complex visual images. Branching literacy is navigating non-linear data to create complex models using augmented reality (AR) and virtual reality (VR) technologies [14]. While Gen Z is recognized to be digitally literate, they can be weak in information literacy, because they are not experienced in searching for credible, reliable, current sources and evaluating the relevance and accuracy of the content. [21]

Diverse

Generation Z is the most diverse generational cohort. Half of them are members of racial or ethnic minorities and they believe in equality and recognize the benefits of diversity in organizations [22] [10]. Generation Z is also the most accepting of the generational cohorts of gay and transgender people. [10].

Self-reliant, Motivated, Career Oriented, Entrepreneurial

Generation Z has many positive gifts including their motivation to have a positive and meaningful impact on the world. They are career-oriented and want to work in fields about which they are passionate [23].

Reference [24] found that Gen Z students are motivated more by not wanting to let down others than they are by individual reward or achievement. The author of this article has noted that some Gen Zers who have no hope of passing a course based on their individual performance will continue in the course on the team project so they do not let their team members down, even though they cannot pass the course themselves.

In addition to being motivated by helping others and working with others, Generation Z students are often motivated by achievement, practicality, and relevance. They like to see how what they are doing is relevant to their goals and is practical. They learn better when things are put into

context of a bigger picture or larger goal.

Socially Responsible

Generation Z students are interested in what’s going on in the world and want to make a difference in the world by bringing about social change. Ideally, they can integrate their passion for social causes into their career choices [23].

Loyal, Responsible, Self-confident

They tend to be loyal, thoughtful, compassionate, and open-minded. The VIA (Values in Action Inventory) Institute on Characters dataset reported that the top five strengths of Gen Zers are honesty, kindness, humor, fairness, and judgement [24].

Weaknesses

Poor Reading and Writing Skills, and Information Overload

The shift to communicating electronically, especially by text, has deteriorated the communication and language skills of this generation, as they abbreviate for speed and word count. This generation has also not been taught cursive writing, so instructors from previous generations need to take that into consideration when writing on a blackboard, whiteboard, flip chart, or providing handwritten feedback on assignments.

Impatience, Lack of Resiliency, Grit, and Critical Thinking Skills

Today’s students have shorter attention spans than in the past. In the last 10 years, the average attention span has decreased from 12 minutes to 5 minutes [24].

Gen Z’ers can get immediate answers from technology, so when they must wait for 24 hours to receive a response to a query, or wait a few seconds for a webpage to load, or read a forty-page chapter to find the answers to complete an assignment, they are impatient. “With evolving technology most of the youth today have lost the patience and work ethic that older generations had before them [25].” This affects their ability to focus and leads to acquired attention deficit disorder (AADD). Their attention spans are short. Not only are they impatient, but they lack some of the skills most valued by employers – critical thinking, creativity, and analytical thinking [25] [26] [27].

With the lack of patience, tendency to AADD, and desire to find quick answers, Generation Z students often settle for the first answer they find on a related topic rather than critically evaluating the credibility of sources and following their experience or instinct to find the best answer or the most credible research. Often, their lack of critical thinking is related to not giving themselves enough time to complete assignments. These students need to take the time to critically analyze the information that they research rather than plugging in the first information that they find, which may not be the most relevant or the best answer. They lack the skills to evaluate and interpret the data that they can quickly

find using technology, thus needing clear step-by-step instructions to complete assignments at school or work [14]. Impatience combined with the ease of cutting and pasting content from the Internet can also result in increased plagiarism.

Lack of Creative Thinking Skills

Forty-five percent of college-age Generation Z students do not believe that they have creative skills, which is most likely related to the lack of arts in K-12 curricula, which helps students to foster their creativity [28] and because they are connected to technology all the time and not having to come up with their own original solutions to problems. Reference [29] attributes Generation Z's lack of creative thinking skills to the focus on standardized testing in K-12 education and the lower priority placed on the arts.

Physical and Mental Health Issues

Because of their love of anything technology ... games, smart phones, social media, etc. ... Gen Z prefers to stay indoors and interact with technology. Many do not like to go outside, and do not enjoy physical activity. One third of them are overweight and one fifth of them are obese [25].

The likelihood of encountering Generation Z students with mental illness is high, as many suffer from depression and anxiety [22]. Sixty-four percent of college students admit to being stressed at least once a week, and ninety-five percent occasionally feel overwhelmed by all that they must do [24]. According to Reference [13], the number of undergraduates reporting overwhelming anxiety increased from 50% in 2011 to 62% in 2016. At the same time, suicides increased, reducing the life expectancy in the US.

On a positive note, one of the characteristics of Generation Z is that they are less likely to use drugs, alcohol, or tobacco than the preceding generational cohort. [12].

Prior to the pandemic, Generation Z students were affected by declining job markets, an uncertain economy, the climate crisis, and increasing student debt [30]. "A 2018 study found that from 2007 through 2017, mental health services utilized on college campuses increased by 15 percent. By fall 2019, more and more campus leaders were prioritizing mental health as a subject of concern and investment. [30]." Then Covid-19 hit.

Impacted By the Covid-19 Pandemic/ Underdeveloped Interpersonal Skills and Teamwork

Reference [31] referred to Generations Z's response to the pandemic as, "I feel postponed and penalized." Gen Z was already plagued by mental health issues including anxiety (AADD), panic attacks, and depression, and the pandemic added PTSD.

Reference [32] studied differential personality change during the pandemic in a US sample. The five-factor personality traits of neuroticism, extraversion, openness, agreeableness, and conscientiousness were studied in adults early in the pandemic and compared to pre-pandemic and later in the pandemic (2021-22). The study found that levels

of extraversion, openness, agreeableness, and conscientiousness were reduced in the pandemic period studied. The study found that overall, there were no significant changes to neuroticism in older adults, but that younger adults (under 30, i.e., Gen Z) became more neurotic over the study period. "Younger adults showed disrupted maturity in that they increased in neuroticism and declined in agreeableness and conscientiousness. Current evidence suggests the slight decreases in neuroticism early in the pandemic was short-lived and detrimental changes in the other traits emerged over time [32]." According to the study, younger adults experienced more decline in conscientiousness, which may impact their motivation to achieve higher education and income over time. Higher levels of neuroticism may lead the younger adults to behaviors that will negatively impact their health and be a risk to poorer mental health. Reference [33] concluded that young adults became moodier and more emotional and less able to deal with stress.

The personality changes observed in the Reference [32] study could also have been impacted by other significant world events taking place at the same time, such as an unstable political environment, the January 6 insurrection in the US, increased mass shootings, etc.; however, "Covid was one of the major stressors hitting everyone—that was the main thing that kept people home [33]."

While students have suffered the consequences of being separated from their peers during the lockdowns, they turned to social media to connect and now rely on these contacts for their social lives and are less comfortable with human contacts socially and academically for such activities as teamwork, for example [30]. Reference [30] also notes that social media has exposed Generation Z to unrealistic expectations resulting in body image issues and eating disorders, which can lead to feelings of guilt and shame.

Students who entered college or university during the first two years after the pandemic missed some important developmental checkpoints that left them struggling to adapt to the changes of university. It is often in the last two years of high school and at part time or summer jobs that students learn personal responsibility, interpersonal communication, and punctuality, but covid lockdowns precluded classroom attendance and part time jobs [30].

"What are called "executive functioning", and self-accountability skills appear to have plummeted among first and second-year students, likely due to the recent gap in personal experiences in the world, as it were. So, when it feels like students are overwhelmingly lacking skill sets that should be ingrained (or at least initiated) by the time they get to college, the lacuna of the pandemic years has most likely been a contributing factor [30]."

Reference [30] advises faculty to look deep when observing the behavior of our current post-pandemic students. For example, he notes that a student who may seem to have time management or academic challenges, may, in fact, be missing skills related to communication or

technology. The lockdown time was devoid of communication with others and understanding communication etiquette.

Additionally, students who missed in-class education for grades 11 and 12 due to remote learning during the pandemic missed time when they would normally develop creative skills [30]

THE GAP BETWEEN GEN Z AND THE TEACHERS

In the years leading up to the 1980s, teachers instructed students as they always had without the need to adjust overall teaching strategies. Traditionalists and Baby Boomers sat in rows of desks and quietly absorbed more formal and structured lessons. Newer generations of students with unique characteristics have new requirements due to their relationships with technology [34]. Gen X learned by working in groups and the atmosphere was more relaxed and interactive. Millennials were exposed to multimodal and multisensory lessons, and Generation Z requires learner-centered education with spaces designed for interactive environments [8]. Now, we find ourselves in an environment where those who sat in rows and accepted information and those who worked in a relaxed interactive environment are teaching these digital natives who demand that their lessons be entertaining and relevant to their world views and delivered via the latest technology. This can lead to tension and generational conflict between instructors and students [10]. Instructors can better prepare themselves to teach this current generation by understanding generational differences. Most people teaching Generation Z are Baby Boomers and Generation X. A few are from the Silent Generation, but the youngest members of this generation are in their early 80's, so most of this generation have retired. Millennials are just starting their teaching careers.

The Silent Generation tends to be more accepting and adaptable and value job security. They are unlikely to rock the boat or step out of the box in their approaches. Faculty members of this generation may have more difficulty crossing the technology divide between their own generation and Generation Zs [6].

Baby Boomers are loyal employees and hard workers, who gain a lot of self-esteem from their careers. They grew up in a volatile and ambiguous world that included influence of parents who grew up in "the dirty thirties" and fought in World War II, and then the Civil Rights Movement, the assassinations of JFK, RFK, MLK, and Malcolm X, the Vietnam War, the end of the Cold War in the Baby Boomers' own lifetimes. Thus, Baby Boomers feel more secure by focusing on goals and having a plan. As faculty members, they are experienced, prepared, and used to teaching well-organized lectures during which students took notes [6]. The Baby Boomer generation of faculty has employed well-controlled, outcome and rubric driven teaching approaches. They need to adapt to the new generation's desire for personalized interactive learning using the latest technology. Baby Boomer Faculty may be less adept at adapting to new

technology than their Generation Z students. These challenges combined with different values related to work and different learning styles among generations can create tension and call for adjustment.

Generation Xers are practical, time conscious and value work-life balance. In the 1990s, Gen X parents were referred to as helicopter parents who were enmeshed in their children's lives, hovering over their kids to the point that they interfered with their Gen Z children's proactiveness, problem-solving skills, self-confidence, and independence [35]. As faculty members, Gen Xers are to the point and can be lenient with the rules about timeliness and attendance at class and they value shorter assignments. Their adjustment to Generation Z relates to taking the time to show they care and spending the time to create interactive and creative exercises that will engage Generation Z.

Millennials have been labelled the "Me Generation," while Generation Z is called the "We Generation [15] [10]." While Millennial faculty members are also part of the digital natives group, they need to practice empathy, understanding, and compassion with their Generation Z students and work on demonstrating that they care.

The average university student spends 9 hours a day using multimedia, and Generation Z multitasks, so they may be doing multiple activities while attending class, such as watching videos, interacting in social media, texting, watching TV, playing video games, etc. This can be a source of conflict with professors from older generations [10].

When teachers recognize the differences in the world views, strengths, weaknesses, and learning styles between generations, they can more effectively teach students of other generational cohorts. They need to be able to combine technology with a variety of teaching tools to engage Generation Z students [10].

PREPARING GENERATION Z FOR THE WORKPLACE: NEXT GENERATION LEADERS

Just as it is important for educational institutions to plan their teaching strategies to meet the needs of new generations of students, it is also important for organizations to get ready for new generations of workers, and it is incumbent upon educational institutions to consider how best to prepare students for the workforce. The future success and growth of corporations will depend on Generation Z and subsequent generations.

In 2019, Generation Z represented more than 20% of the workforce [36] and by 2020, 80% of the workforce was post-Baby Boomer introducing a time when four generations (Baby Boomers, Generations X, Y and Z) all work together integrating their various styles, skills and worldviews into the workplace [37]. In a time when organizations are focused on diversity, we have learned to value the strengths and skills of everyone as well as their different values and points of view. The goal is to also value the strengths, skills, values, and beliefs of all the different generational cohorts.

Table 2. Challenges of HR in the Light of Different Generational Characteristics

	Baby Boomers	Generation X	Generation Y	Generation Z
Incentive/ Motivation	Promotion opportunity, new paths, fixed workplace	Status, materialism	Individual freedom of movement, opportunity to make decisions, competition, self-realization	Immediate remuneration, freedom, non- commitment
Performance Evaluation	Fact based, correct, based on the past	Future-oriented, active participation, goal setting, career planning	Future-oriented, direct feedback, discussion, talent management	Own limits not recognized, self- confident, values and self-image are distorted
Training, Learning, Development	Traditional education system, experience, holistic	Flexible, shorter learning time, trainings, mimicry, interactive, flexible, just in case	Rapid, individual, based on IT, alternative, just in time	Based on interest, informal learning
Conflict Management	Avoids or deals with	Willing to compromise	Opposes	Provokes conflicts, but either does not follow through or reacts aggressively

(Source: [38]. Reproduced with permission of Dr. A. Bencsik)

Table 2 summarizes generational differences related to their viewpoints about teamwork and knowledge sharing at work from a study by [38]:

Several differences between Generation Y and Millennials have been mentioned, and while several similarities between the generations were noted, there are also significant differences that impact the workplace and seem to become more problematic at work, leading to potential conflict.

Millennials are adept at multitasking, but Generation Z is even better at it. They can work on more tasks at once and are more productive than their predecessors [37]. They are also

very confident, optimistic, and entrepreneurial [36]. Several studies have looked at the attitudes of Generation Z toward work [39] [37] [36]. According to Reference [39], “Generation Z represents the greatest generational shift the workplace has ever seen. Generation Z will present profound challenges to leaders, managers, supervisors, HR leaders, and educators in every sector of the workforce.”

According to Reference [39] and Reference [37], Generation Z is clear about what they want out of their careers. A study by Reference [37], showed Generation Z career aspirations 5 years after college graduation.

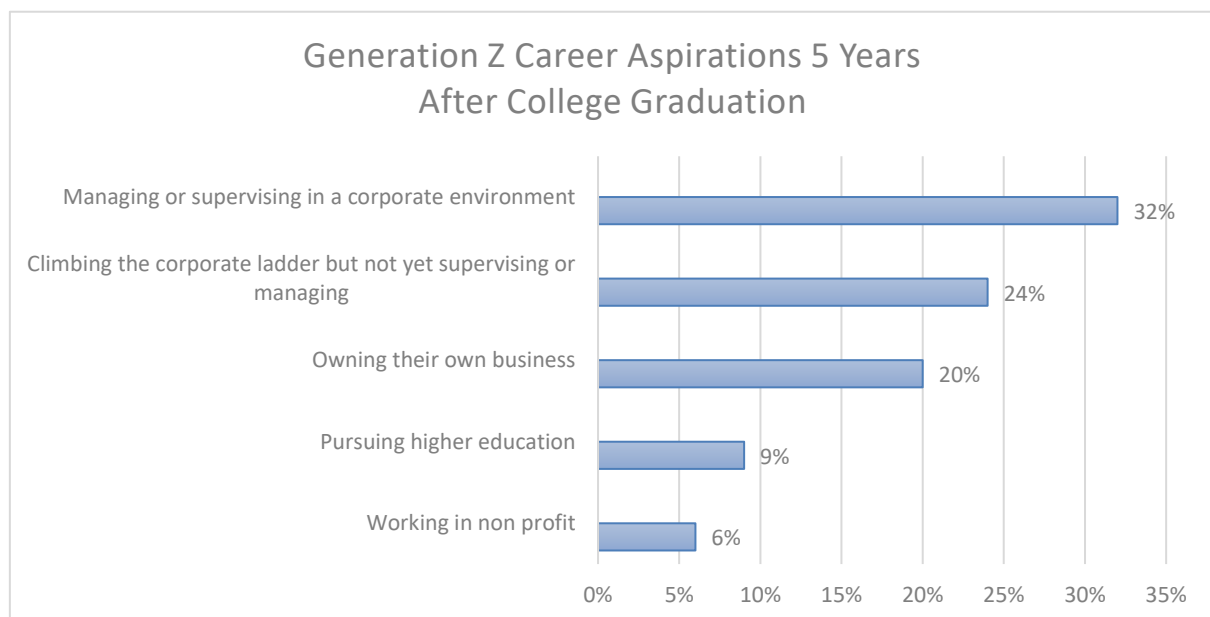


Figure 1

Source: Created from data in Reference [37].

Thirty-two % of Generation Z students said that they expected to manage or supervise in a corporate environment

within 5 years of graduation and another 24% saw themselves working up the corporate ladder, but not yet in a supervisory

or management role. Twenty percent aspire to start their own businesses; 9% expect to be pursuing higher education, and 6% see themselves working for nonprofit organizations. In today's competitive environment and based on having grown up during the 2008 economic crisis, four out of five Generation Zers expect to work harder than their predecessors and more than half of them expect to work until they are 70. [37].

Reference [40] by a Generation Z member, states, "I came into the world in the year of Y2K and *Bush v. Gore*, and I was a toddler when the twin towers fell, and the iPod launched. As a teenager, I watched the world (and my dad) worship tech

giants like Steve Jobs, who bragged about their 80-hour workweeks. I witnessed the gig economy replace nine-to-five work, and saw millennials fall sway to startup culture's 24/7 grind." Generation Z doesn't want to go down the same path as their parents with 80-hour workweeks, especially when they cannot realize the same financial rewards and opportunities of previous generations. They are more focused on work-life balance, and they aren't going to work for 12-hour days when they only get paid for 8. They are also concerned about their mental health and recreation time, and they expect to be fairly compensated and have better working conditions [40].

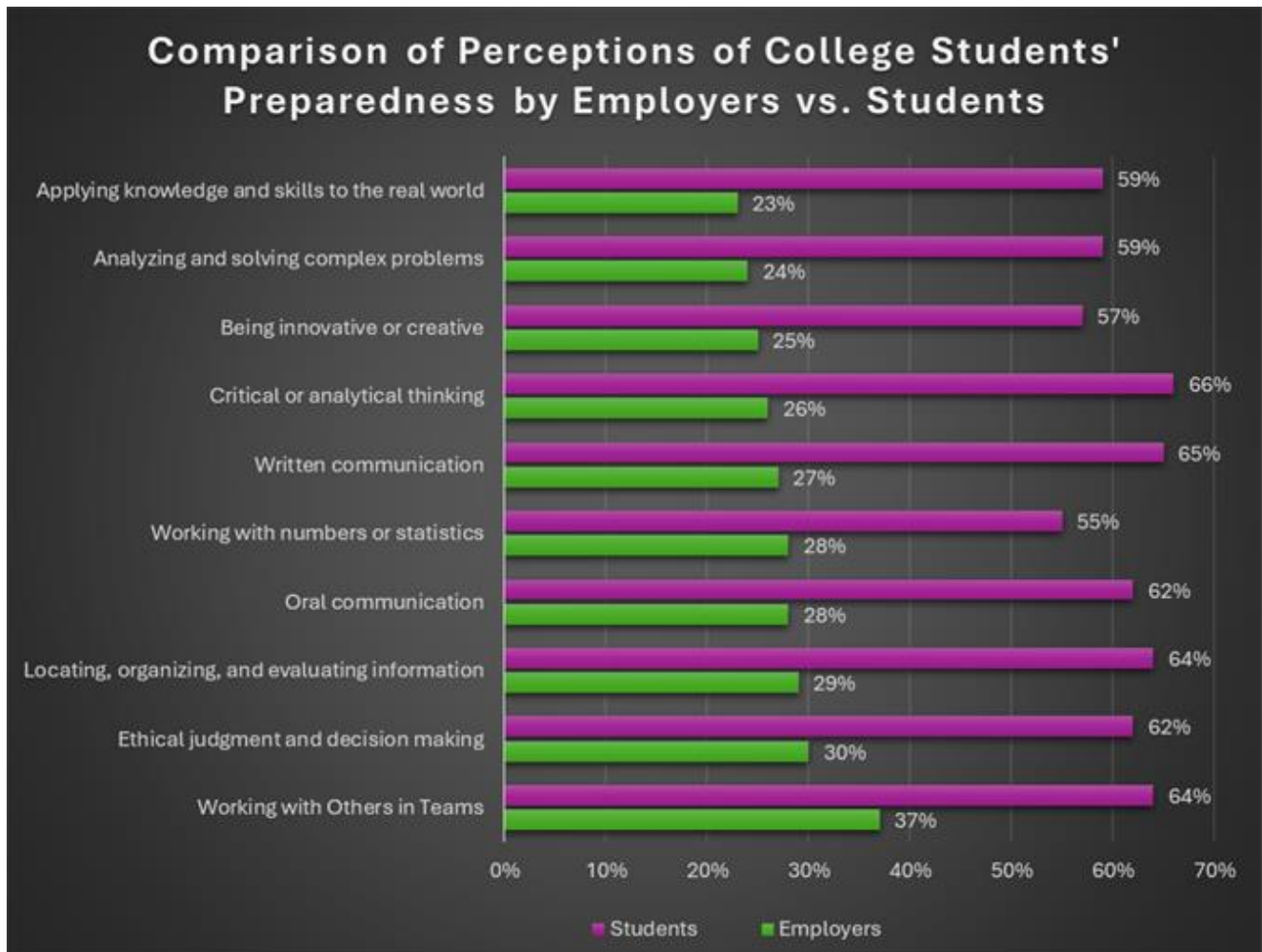


Figure 2. Students' and Employers' Perceptions of Preparedness for Work
Source: Created from data in [26].

The World Economic Forum identified critical thinking as the second most important skill for leaders [23], and in a study of 400 employers and 455 students by [26], it was found that 66% of students feel well prepared in critical thinking whereas only 26% of employers surveyed felt that students were well prepared. Figure 2 compares how students and employers perceive students' preparedness for work on a list of important work skills, such as oral and written communication, teamwork, ability to apply knowledge and skills to real problems, and others.

There is a need to help Generation Z develop critical thinking skills, communications skills, and teamwork so they will be able to solve the complex problems facing businesses and society when they enter the workplace.

The third most important workplace skill identified by the World Economic Forum is creativity. While earlier profiles of Generation Z describe them as creative and reluctant to work with others, recent studies of the effects of the pandemic on young adults suggest that some of these skills may have been eroded or changed during lockdowns and other effects

of the pandemic.

In a subsequent study, [41] noted an issue with cooperation and knowledge sharing between Generation Y (Millennials) and Generation Z in a corporate environment. They conducted a study to find out “how to approach the new generations from the view of HR.” Their study surveyed 410 respondents, and the study validated their hypothesis, “HR managers have to cope with new tasks if they want to capture and keep the young employees and to ensure knowledge-sharing, which is the key to competitiveness. The foci of HR change are communication, motivation, and development of corporate culture. [41].

Reference [36] surveyed Romanian Generation Z university students about their perceptions of the ideal workplace and working conditions, their priorities when looking for a job, and their career goals. Her study found that Generation Z’ers prefer to work in groups in open-space offices rather than in isolation or remotely. Her study also concluded that this generation strives for continuous development and desires mentorship and strong working relationships. Generation Z also desires security and generous pay. Reference [36] acknowledges that her study was limited to surveying her own students who were studying economic sciences, so more research is needed.

Reference [40] stated, “We’re rejecting traditional workplace norms and refusing to work 12-hour days or glue ourselves to our mobile phones all weekend in case the boss emails. Instead, we’re prioritizing mental health, time off, and work-life balance. We want clear boundaries, better working conditions and higher pay.” Reference [40] continues, “The Gen Z revolt isn’t just media froth—it’s real, widespread and formidable. And, more than in previous eras, conditions today are uniquely ripe for lasting change. [...] If we can seize this moment in time, we have the power to change the world of work for the better – for ourselves and for everyone else [40].

In Canada, the average time workers stay in their jobs declined between 2020 and 2022 from 106 months to 101

(4%). For workers younger than 25, the time was from 19.5 months to 17 months (12 %). This was the largest decline since the late 1980s [40].

Today’s leaders will be challenged to keep their Generation Z employees engaged, motivated, and focused. To summarize, workplaces will want to develop Generation Z’s communication skills, critical thinking, and creativity. They will also want to find ways to attract and retain them. Universities can help students be better prepared by including content in their programs that helps Generation Z to develop and practice their analytical and critical thinking skills,

Employers will also need to focus on targeting Generation Z with benefits that attract and keep them, such as allowing for work-life balance, flex time, shorter work weeks, unlimited sick-days and vacation time, independent work styles, social working and learning environments, mentor programs, fostering and supporting diverse workers, professional development programs to help with soft skills, and higher pay.

INSTRUCTIONAL STRATEGIES FOR ENGAGING GENERATION Z

Currently, there are almost seventy-three million Generation Z undergraduates in the US so it’s critical to adjust teaching to their needs and to help them be better prepared for the workplace. Generation Z is used to information being a click away, so they expect immediate feedback on assignments, and they crave independence. They want personalized education so that they can select what they learn and how they learn it [22] [20]. They expect fast delivery with content that uses complex graphics, integrated multimedia, and games [20]. They like to work independently in social learning groups, although many lack interpersonal skills and don’t prefer group assignments. They prefer to learn through observation and doing rather than by reading [10].

Table 3

Generation Z Summary of Strengths and Challenges	
Strengths	Weaknesses
Tech Savvy	Information Overload
Multi-Tasking	Need help with:
Career Oriented	<ul style="list-style-type: none"> reading and writing skills
Socially responsible	<ul style="list-style-type: none"> critical thinking skills
Diverse	<ul style="list-style-type: none"> creative thinking skills
Self-confident	<ul style="list-style-type: none"> Interpersonal skill
Self-reliant	Lack of resiliency
Motivated	Impatient
Loyal	Higher rate of physical and mental health issues

Generation Z Summary of Strengths and Challenges	
Opportunities	Threats
Easily adapt to technology in the classroom and workplace	Need for technology infrastructure and support for eLearning and classroom delivery
Opportunity to introduce critical thinking, creative thinking, information literacy, writing & communication, teamwork, and interpersonal skills content in curriculum	Need for faculty training and support
Opportunity to introduce social responsibility and entrepreneurship content	Need to provide health support and counselling

Recommendations

Having profiled the strengths and weaknesses of the Generation Z cohort, how do we address them with appropriate teaching strategies? Student engagement is influenced by generational differences, instruction methods, and attention spans, [42]. This paper proposes strategies that leverage the strengths and develop the weaknesses of Generation Z to engage them in class and to prepare them for their desired careers.

Leveraging the strengths of Generation Z

Digital Natives, Tech Savvy, Think in 4D

Generation Z is used to bringing their own technology to school. They have cell phones, tablets, and laptops, so instead of looking at these as distractions, instructors can engage the students to use their devices to look up information in class. Instructors can incorporate impromptu research in class discussions and/or give students time in class to complete online research exercises [1] [11]. References [28] and [19] suggest including exercises that are image-based, such as using education apps, videos, and photography. Gaming can involve embedding components, such as puzzles, into lessons.

Generation Z students prefer to watch videos over reading because they don't have the patience or attention span to read lengthy readings; therefore, including videos in classes is more interesting to them [1]. There are a host of educational apps and websites that can be used.

Digital apps can be utilized by instructors for delivering lessons to students and used by students to make their assignments more engaging. Students can create presentations or videos with applications, such as iMovie or various interactive presentation platforms [23] [19].

The concept of flipped learning is suitable for Generation Z learners because they are often afraid of being called on in class and being embarrassed if they don't know the answer. This concept involves having students prepare before class, which can include having them research content online, watch videos in advance, or prepare a short book or article review or summary [23] [19]. Or students can look on YouTube and Google to prepare for in-class discussions with classmates or professors. In class, they can share with the rest of the class what they prepared in advance.

Personalized learning

Gen Z students like to work independently, and they are used to personalization. "Personalization is the process of knowing the needs, preferences, and interests of your current and prospective customers so that you can serve them exactly what they're looking for when they're looking for it. When done right, personalization can help you engage customers better through relevant communications, offer exceptional customer experiences, boost loyalty and retention, and increase sales [43]." So, while personalization is generally practiced by marketers, it can be applied to education whereby students can work independently on personalized programs that are tailored for their specific needs and interests. This calls for flexible programs, flexible faculty, and adaptable learning management systems. Students would select their own courses, learning materials, and projects within an approved set of standards and criteria to meet accreditation and program requirements. "Some institutions are allowing students to figure out their own course disposition, as well as tailoring their online programs to individual student choices [25]." This is not an entirely new concept, as some universities incorporate interdisciplinary programs. The author of this paper completed a master's level interdisciplinary degree at the University of British Columbia in 1994 that was self-designed and approved by both academic and administrative committees.

Self-Reliant, Motivated, Career Oriented, Entrepreneurial

Independent Learning

Generally, Zers prefer to work alone on independent projects at their own pace and to be accountable for their own academic achievement. While independent projects provide opportunities for self-reliance, self-direction, self-reflection, and critical thinking, these students search for the one correct answer rather than being challenged to consider multiple options of approaching an assignment. They prefer structure and guidance to complete their independent projects, which is attributed to this generation's fear of embarrassment for submitting the wrong answer. Therefore, students desire guidelines describing the expected length and format of assignments, as well as step-by-step instructions about how to complete the assignments [23]. Because they lack time management skills, they also require clear expectations such

as due dates, which could be personalized. Faculty become facilitators on a self-discovery path rather than traditional disseminators of knowledge.

Social Learning

While Generation Zers prefer independent learning, they don't want to be alone while doing it. They are social learners who want to engage with the content and classmates and professor on their terms, when they "need" it. They tend to show up in groups in the library or coffee shop with their computers and phones and work independently beside each other with little interaction. However, today's business model revolves around teams, and colleges integrate teamwork into their programs to prepare their students for the workplace. Generation Z does not prefer group work because it means they do not have total control over their grades, their interpersonal skills are not well developed, and they are afraid that they may not be able to contribute effectively to the group assignments. However, Figure 2 shows that only 37% of employers feel that Generation Z is prepared for teamwork in the workplace [26].

Generation Z seems to have developed their own satisfactory workaround to the college team experience. They have regular meetings and work independently beside each other to accomplish the groupwork. In other words, they have adapted social learning to accomplish groupwork [23].

These students are loyal, compassionate, and fair and they do not want to disappoint others, so they are motivated by ensuring that their actions do not negatively impact their relationships. They are also motivated by their own goals for achievement. Therefore, instructors can frame their communications to students by explaining how certain actions, such as missing class, not contributing their fair share to team activities, or not completing assignments on time can impact other students' goals for achievement as well as their own goals for achievement. For example, emphasizing that an assignment is worth 40% of the class grade, or stating that missing the team meetings means that other students must carry more of the team responsibility can motivate them to be more responsible.

Experiential Learning

Experiential learning involves learning by doing, learning from experience, and learning by discovery. Instructors interact with their students to help them acquire knowledge, develop new skills, and evaluate values and ethics.

According to Reference [25], 51% of Generation Z students learn by doing, whereas only 12% stated that they learn better from listening." Reference [15] also found that Generation Z students learn better through hands-on experience. Their learning is enhanced by applying course concepts to solve problems or complete creative projects. One Generation Z student said, "I need to be actively doing the learning to receive the most information. [23]." Experiential learning includes interactive activities, such as polling apps that allow students to vote on their personal devices, and then

the aggregate of the vote is shown to the whole class. The polls can be used as a check-in to test students' comprehension of a concept, or they can be used for entertaining engagement when introducing a new topic.

Peer learning is when students teach each other. Activities that involve students preparing material to teach their classmates help them to learn the material better. Instead of being the learner, students become the facilitators [18] [23]. The author has frequently created activities in class both online and in class whereby students work in groups to create presentations or solve problems and then present them to the class. They utilize their devices to work together to complete these projects in class. [18]

Demonstrations can be used to show Generation Z students how to complete a task. For online classes, instructors can make a video demonstration of how to complete an assignment or how to do a math operation, or how to operate equipment, or this can be done live in class. For example, an instructor can demonstrate how to do an effective presentation. Generation Z students like to understand how to do things and why they should be done that way. A demonstration fulfills those needs [23]. Role playing is another interactive activity that helps students to learn by doing. For example, they can interact in role plays to learn how to provide excellent customer service, how to consult with a client, how to make an effective sales call, how to respond in a critical situation, how to negotiate a contract, how to deliver first aid, etc. Role playing provides simulated practice for real world situations and can either be spontaneous or researched and prepared, and can be done by individuals, pairs, or groups. Spontaneous role playing can cause anxiety for timider students and given that Generation Z students can feel embarrassed if they get something wrong, researched/prepared role plays are recommended for this student group.

Gamification involves including game-like milestones in lessons to motivate students to achieve learning goals. [18]. For example, students can advance through different activities, levels, or checkpoints and be rewarded with badges, tokens, or stars as they complete each level. Generation Z students generally don't seek public recognition and are not motivated by competing with each other, so badges should be rewarded for self-achievement [28] [23].

Playing games, such as board games to learn about concepts, such as business operation, financial management, etc. are also effective for engaging Generation Z.

Practical Relevance

Generation Z students are more career and financially oriented, and more entrepreneurial than previous generations. Many of them expect to be self-employed or have a side business and they are less risk averse. They are interested in the practical applicability of what they are learning. They ask, "Will it prepare me for my career?" Thus, relate concepts to work applications and offer real world work examples [28], [23]. Experienced faculty have plenty of real-world

experiences to incorporate and students enjoy these stories. Reference [44] offers some examples of how to explain the relevance of concepts. For example, “Professionals in this field need to know and apply these essential concepts.” This statement demonstrates the relevance of applying the concepts.

Reference [44] recommends offering choices of topic or projects so students can work on assignments that are practical and meaningful to them. Faculty can also encourage students to select assignments related to their desired career choices and related to their own passions. [11]

Some schools are developing partnerships with industry to create channels between Gen Z students and sought after careers.

Generation Z students tend to be entrepreneurial, so include examples by using videos and personal stories to show how entrepreneurs have succeeded by applying concepts being studied in class.

Social Responsibility

Reference [44] suggests creating student projects that are practical, of personal interest, or focus on social responsibility. Some examples are solving problems related to community services, designing programs to support disadvantaged groups, or developing plans for work-life balance. Reference [15] recommends incorporating socially conscious curriculum to help students develop creative thinking skills as well as fulfilling their interest in social responsibility. “Generation Z students want to learn not just for promoting social ideas, but because they can then use that learning to create social change [15].” Some teaching strategies recommended to fulfill this goal include guest speakers, case studies, and problem-based questions on social issues.

Diverse

Because so many Generation Z individuals are born into families of mixed races and cultures, they are very comfortable working with diverse groups and very accepting of and respectful of people of differing backgrounds. Although they are comfortable working with others and respecting their differences, as has been stated, they prefer to work independently and their interpersonal skills are not highly developed, which can lead to conflict when assigned to teams. Teamwork is important in the workplace and part of most business models at work and embedded in most higher education business programs. Due to the pandemic, Generation Z has lagged in developing their interpersonal skills, so it is recommended to continue with teamwork and to emphasize turning on video cameras when working with virtual teams [45]. To help them practice and develop interpersonal and team skills, employ team charters or team agreements to plan their projects and to plan and manage conflict.

Teaching Strategies to Overcome Weaknesses

Addressing Reading, Writing, and Information Overload

As previously stated, Generation Z learns better by doing than from reading or listening to lectures. So, while reading is not how best to reach them in class, they do need help with reading, writing, and grammar, such as including writing labs and tutors, and a grading component in the assignment grading rubrics for writing skills.

In this age of information and technology, students are overwhelmed. They don’t want to sit for hours listening to long lectures. They’re looking for short assignments that are to the point. They don’t want to spend a lot of time reading too much information and creating long research papers. They also want to be guided in their research with the assistance of faculty and librarians.

Addressing Impatience, Short Attention Span, and Lack of Critical Thinking Skills

Short Interactive Activities

Generation Z students have short attention spans, so short online quizzes and checkpoints are suitable for testing their knowledge on content. Additionally, when content is customized to fit the student, it keeps them engaged. It is also better to reduce lecture time to short segments to avoid losing students’ interest. Shorter segments can also be interspersed with jokes, videos or other entertaining content to keep students interested. Additionally, to keep students focused and attentive, offer multiple short breaks in class instead of fewer longer breaks.

One way to force students to consider multiple points of view is to design assignments and research exercises that direct them to find multiple points of view on issues and then evaluate them and form opinions or reach decisions based on their research and evaluations [24]. Case studies are a good example of this type of exercise, especially when students are directed to use the six-step case study analysis methodology rather than only answering the case questions. Debates, presentations, and class discussions incorporate multiple points of view and help students to develop and practice critical thinking as well as continuing to develop interpersonal and listening skills.

Generation Z students can benefit from lessons about information literacy and research. Schools can offer easy access to online or physical school libraries with available librarians to support students’ research needs, and faculty can evaluate and offer feedback on students’ references lists and coach them to include credible sources because they may lack experience in evaluating sources for credibility, reliability, timeliness, relevance, and accuracy. [21]

Create Content in Multiple Formats

Generation Z students live in a digital world where their personal lives, work lives, and student lives are enmeshed with technology. To keep them interested, motivated, and engaged, create content in multiple formats using technology

to make learning fun [46] [44].

Focusing on Creative Thinking Skills

“Creativity involves generating multiple unique ideas and combining those ideas into the best result [15].” Creative Thinking is one of the skills most desired by employers, yet one of the skills least developed in Generation Z students. Therefore, incorporate content to develop creative thinking into programs for Generation Z to prepare them for the workplace. Assignments that include creating videos, solving problems, making story boards, or presentations can enhance their creativity.

Dealing with Physical and Mental Health Issues

Showing that you Care

Reference [46] studied the importance of faculty demonstrating care for Millennials and Generation Z students to keep them motivated. Today, as Generation Z students transition from high school to college and university, they are now less supported than they were in secondary school by nearby helicopter parents, and they also missed important developmental time when schools shut down during covid-19. And more students are studying online with only virtual contact with instructors. With parents and teachers less involved, these students feel less supported while they also face their first real threat of failing in their academics. Faculty can direct students to student services, library services, counselling services, and other university programs that will support them during this transition period.

Earlier research [47] [48] identified the following actions that Generation Z students perceive as caring: “Frequent interactions with students, assistance with personal and academic challenges, fairness in classroom treatment, listening and encouraging students, smiling and being “warm,” and efforts to learn about students’ lives [46].”

Reference [46] found that Gen Z students perceived caring as an attitude and via pedagogical practices. In fact, they found that good teaching practices were more important than teacher attitudes in perception of caring. According to their research, an attitude of caring includes empathy, reliability, approachability, relatibility, encouragement, enthusiasm, trustworthiness, and an interest in students’ lives outside the classroom.

Students also want to be able to approach faculty when they need help and to feel comfortable doing so, so it is important for faculty to let students know that they are approachable and to publish office hours. Reference [46] found in their research that, “Whether or not students ever went to office hours or talked with faculty outside of class, they valued the sense that they could if they wished.”

Reference [46] identified the pedagogical practices that demonstrated caring to Generation Z students. Generally, when instructors were well prepared and demonstrated adaptive teaching, students perceived that the instructors cared. Adaptive teaching refers to accommodating teaching methods to help all students meet learning goals by

interacting with students, checking for understanding, adjusting teaching to meet student needs, and providing clear feedback. The instructors who were thought to be the most caring used humor, provided relatable examples, and regularly interacted with their students. Relatable examples include stories from everyday life and popular culture to translate what may seem like abstract concepts to practical applications that students understand [46].

Impact of the Covid-19 Pandemic

Reference [31] suggests getting past the effects of the pandemic by turning “a setback into a comeback.” He recommends helping Generation Z students to develop resilience by encouraging them to develop ambition and adaptability (grit). He states that strong resolve to accomplish a goal and adapting strategy to achieve the goals can motivate students to get over the feeling that the pandemic “postponed and penalized” them [31].

Faculty who show that they care and utilize teaching strategies that are motivating and encourage students to follow their passion can help them become more resilient. Professors can help Generation Z go beyond PTSD from the pandemic by telling inspiring stories about how others have overcome adversity, how people have helped each other, or how they were resilient or creative. Instructors can also help students to find the good in perceived negative situations and help them to change the stories they tell themselves. For example, instead of telling themselves that there is no hope, they can encourage them to be more positive. “Part of the reason for the success of these types of narrative shifts occurs because, as some psychologists have found, the power of sharing joy with others far outweighs the power of sharing grief [31].”

LOOKING TO THE FUTURE: NEXT STEPS

Integrating Teaching Strategies

More work needs to be done to study and integrate the strategies mentioned in this paper and others into everyday teaching at higher education institutions. Specifically, there is a need to pursue how to integrate technology into classrooms and how to keep it current to keep Generation Z and the following generation, Generation Alpha, engaged.

Generation Z students are referred to as digital natives; they easily adapt to new technology and have digital literacy. More research should be undertaken to better understand photo-visual literacy, reproduction literacy, branching literacy, information literacy, and socio-emotional literacy. Reference [14] helps students to use and interpret web-based data, understand complex visual images, and navigate through non-linear data to use augmented reality (AR) and virtual reality (VR) technologies and how these fit into education.

“As institutions of higher education wrestle with greater pressure to retain students and recognize the myriad of ways that faculty contribute to student success, the research on caring as an important factor in student engagement and

persistence becomes increasingly relevant. Although we know that caring matters and requires effort on the part of those teaching, we know little about how students in higher education conceptualize caring [46].”

Faculty Training

Gen Z wants professors who are enthusiastic, involve students in learning, understand them and give immediate feedback on assignments.

Reference [49] identified what Generation Z students liked most in their favorite teachers/professors:

- Makes class interesting and involving (50%)
- Enthusiastic about teaching (31%)
- Communicates clearly (29%)
- Understands students’ challenges and issues and gives guidance (27%)
- Challenges me to do better as a student or as a person (25%)
- Talks to students in and out of class (21%)
- Understands and supports me in areas where I am unprepared or behind (20%)
- Gives feedback and performance to help students improve (19%)
- Looks for new and better ways to teach (17%)
- Comes to class organized and prepared to answer questions (14%)
- Gives me confidence to speak out (12%)
- Teaches me about important global, social issues outside the classroom (9%)
- Has a global view of the world (7%)

Faculty training should focus on soft skills that demonstrate to students that they care and have a global perspective.

Faculty are made up of the Silent Generation (mostly retired now), Baby Boomers (starting to retire), Generation X, and Millennials. While there are clear differences between the generations teaching and the current student body, it is notable that the Silent Generation, Baby Boomers and Generation X have in their favor that they are loyal, hard-working, and adaptable and will enjoy the challenge of meeting their younger generation students’ needs. Institutions need to support faculty by training them on generational cohorts and their needs, and, in particular, Generation Z, as they are the main group comprising today’s student population.

Faculty also need to be kept current on the latest technology that can be used to engage students in the classroom, and they need to look toward being facilitators of learning rather than disseminators of knowledge. This facilitation also means being prepared to guide students through personalized learning.

Impact on the University

According to [25] one third of students surveyed would not recommend their universities to others because they feel that the student administration systems don’t meet their needs.

David also states that 73% of Gen Z students believe that their universities require a digital approach; 36% believe that complicated administration systems cut into their studying time; 47% of these students believe that student administration systems should be easier to use; and 41% feel that they should be able to interact more digitally with their schools. Eighty-seven percent of Gen Z students surveyed would like to have a single web application that manages financial aid, course transfers, advising, tuition payment, admissions, and managing academic progress and coursework [25].

Other systems, such as libraries and learning management systems, need to be updated to meet the needs of digital natives.

More and more universities are including counselling for their students, and this is critical and urgent, given the impact of covid-19 on Generations Z and Alpha and the preponderance of mental health issues common to Generation Z.

As many Generation Z students are choosing not to attend university, enrollments may dwindle, but when Generation Alpha reaches college age, we can expect enrollments to trend up again.

Understanding Generation Alpha

Generation Alpha is the group born between 2010 and 2025. This group will start to enter college in about 2029. This will be the largest generation in history, and enrollments will go up.

Generation Alpha is also known as Generation Glass and the Global Generation [8]. These students are used to helicopter parents, hand holding, and personal attention. Their parents are Millennials, and this generation is very connected to their parents; hence, they are sometimes referred to as the Mini Millennials. Millennials have doted on their Generation Alpha children and raised them with the very best care. It is expected that Generation Alpha will develop similar preferences and make similar choices. Since this generation is so young at this point, an effective way to learn about them is to understand their Millennial/Generation Y parents [50].

What is known about Generation Alpha now is that they are used to being indulged. Their parents have exposed them to the best quality brands, products, and care, and they are very connected to technology. Parents have pacified them with electronic devices, and they are used to digital learning. Thus, like Generation Z, they also have short attention spans, and they expect instant gratification [50].

Generation Alpha is the most technologically literate generation to date. Like Generation Z, they have been digitally connected for their entire lives and are well-versed in games, creating prototypes, and online learning. Technology moves at a rapid pace, and it will be a challenge to keep up with this generation’s comfort and adeptness with technology [8]. Because this generation was locked down during the covid-19 pandemic, they attended school online and spent even more time using technology than their

predecessors, Generation Z [49].

The pandemic lockdown also meant that Generation Alpha spent more time with their millennial parents, making them even closer to their parents. Millennial parents involved their children in their hobbies, such as cooking, baking, sewing, gardening, family movie nights, biking, etc. to keep them interested and active. This is a major difference between how Generation Z and Generation Alpha have been raised [49].

Reference [8] recommends focusing on skills, providing purposeful and flexible lessons, including teamwork, and developing soft skills as strategies for teaching Generation Alpha.

Generation Alpha students will need to learn skills that will help them think and make good decisions. These students will also need to learn how to deal with their own behavior and that of others, how to interact with others, and how to set goals. There will be a continued need for students to learn critical thinking, creative thinking, and working with teams [8]. Finally, the desire of Generation Z to learn relevant and practical skills that are consistent with their career goals is likely to continue with Generation Alpha.

CONCLUSION

According to Reference [46], Generation Z expects “to be self-employed at some point in their lives and have a related interest in an education that is customizable and applicable to real-world circumstances. In short, our youngest students have technology at the center of their everyday lives, are accustomed to and comfortable with a diverse world, and are driven by a desire for a helpful, responsive, practical educational environment that will enable them to succeed in future careers.”

Many Generation Z students are choosing not to seek higher education or to choose shorter more practical and focused programs, which is having a significant impact on enrollments at universities, so schools must compete for enrollments more than ever and ensure that they have an eye on student retention. This makes it even more critical to offer teaching and programs that engage these students.

Acknowledgement

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