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Generation Z - A Look at their Technology and
Media Habits and Implementing Best Practices

RESOURCES

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Gen-Z Classroom Tips

One of the greatest challenges facing education is the digital knowledgeable students being taught by faculty who use limited technology. The traditional approach of didactic lectures and blue-book exams is not how Gen Zers want material presented to them or to be tested. There is no doubt that faculty must be prepared and equipped to teach using an array of software, hardware, digital tools, technological platforms, and social media. They will need professional development to support them to move from a traditional approach to a transformational learning and teaching model.

There is no clear cut or “magic” answer to teaching Gen Zers. Researchers are still discovering the nuances and idiosyncrasies of this generation of students. Albeit, there are common themes of teaching strategies that are effective in engaging Gen Zers in learning in the classroom and beyond. This section introduces five themes to help faculty prepare for the challenges and changes steadily permeating the higher education arena.

THEME #1—Provide Small Bits of Information at a Time. Faculty who are willing to flow back and forth between providing information and allowing students to work on assignments or projects collaboratively via technology helps Gen Zers to maintain longer attention span, interest, and engagement. Gen Zers are not in tune with traditional, passive instructional sources, like printed textbooks, nor do they have the patience for long, drawn out explanations of concepts and theories.

“Volumes of dense static learning content are increasingly out of touch with the modern, real-time enterprise because young people’s learning practices last for only a moment, like a live news ticker running across the bottom of a television screen (Hendy, 2014).”

Therefore, providing information in small “bites” at a time supports Gen Zers learning. Does this imply that faculty need to become a “live news ticker?” No. It does mean that faculty need to generate ideas about how to motivate and engage Gen Zers in learning for longer period of times and extend their attention and focus on assignments/projects that require more than the few seconds that they take to read and intake information. Students read less than 20% of text and only spend 4.4 seconds for every 100 words on the page (Rothman, n.d.), which is obvious that the traditional reading assignments are not going to engage them. Thus, flexibility, but more importantly, being comfortable with flexibility, is very critical when it comes to thinking outside of the box or putting aside conventional ways of teaching to support the learning of Gen Zers.

Gen Zers reach for a smart device every 7 minutes (Styring, 2015). Gen Zers want information constantly and immediately. They are impatient and are accustomed to finding information at warp speed; and thus may find the traditional instructor's slow pacing of delivering information to be an annoyance rather than an advantage, especially if they are constantly seeking short cuts to obtain information and achieve results. They expect answers immediately (Fudin, 2012).

"Going virtual" allows Gen Zers to disengage quickly from anything 'boring', like slow-paced lectures or memorization assignments, and to re-engage just as quickly if it becomes worthwhile. This can be easily incorporated in a class period, since in today's world; content can be accessed through technology anywhere, and often in very visual, engaging forms. But, this can also pose a challenge for faculty who do not see the value of virtual platforms and are not willing to give up part of their class time for collaboration. Finding creative ways of embracing technology inside and outside the classroom will make it easier for Gen Zers to flourish in college. Nonetheless, it is important to note that technology should not marginalize or replace faculty in the classroom. Students want faculty in the classroom since they are the experts of their disciplines and field of studies and are critical to facilitating discussions and applications of the content at hand.

THEME #2—Tap into Your "Rock Star" Qualities. Successful faculty, like rock stars, have the natural ability to incite students' passion, captivate their attention, and intrigue their minds. A rock star "seamlessly exploits the affordances of digital tools, weaving them into their highly interactive and unpredictable performances." Faculty can utilize today's technology to work in their favor. Fortunately, faculty do not need to know every technology tool or platform that exists, but like rock stars, they need to know what technology makes Gen Zers "tick" or "pulse" or keeps their attention "plugged in" long enough so that this generation of students can discover, think, inquire, collaborate, participate, apply, experience, and learn. Examples are interactive games, collaborative projects, advance organizers, and challenges. Additionally, bringing game design and game theory into education allows faculty to connect with Gen Zers, as facilitators or guides.

For example, Planet Oit!, an on-line, highly interactive, multi-player game with a challenging, behavioral reinforcement, goal-oriented scoring system, which was originally developed for high school students is gaining popularity with college undergraduates. At Wright State University, undergraduate science students collaborate in teams to use the 40 instruments, tools, and equipment available to perform tests on the samples they find before reporting their results back to Earth. In this game, teams apply the concepts and principles of physical geology, as interplanetary explorers, in a geophysical space where geological regions (desert, mountains, plains) in over 50 locations, contain plausible phenomenon (mesa, playa, cave) which are populated with an estimated 200 plausible objects (outcrops, boulders, veins) with nearly 100 rock and mineral types (Science Education Resource Center, 2015).

McCordle's (2016) book, *The ABCs of XYZs*, attests to the capacity of rock stars to mesmerize young fans for hours at end. He further states that faculty should pay closer attention to how rock performances easily incite such fans to actively participate rather than to be a passive observer.

Faculty need to figure out and architect new and exciting ways of learning and doing that are "hands on, minds on" that teach students to rigorously seek and apply knowledge beyond their potential and not just rely on what is taught (McWilliam, 2015). Seely (2006) ten years ago called this "learning to be" rather than "learning about."

Today's learners are a multi-modal generation and therefore demand teaching styles that engage multiple channels of learning. This new generation of students identify themselves as creative intellects and problem solvers but only if they can see the relevance of the subject as it relates to their everyday lives. They thrive on relevant, applicable, active learning and project-based tasks. An example is Second Life.

While this is not a new virtual platform, universities and colleges are increasingly using it to teach critical, life-saving skills such as those needed in a "code red" or "code blue" situations in hospital settings, as well as a cost-effective means to training. Independently and in collaborative teams, college students at Tacoma Community College were placed in various 3D environments and their mission was to identify, analyze, and respond to life-threatening situations. Students applied the knowledge that they learned in previous lectures to problem solve and resolve each situation successfully. Additionally, Bethel University in Minnesota and the University of Wisconsin use Second Life for their Bachelors in Nursing Program; and North Carolina State University integrates it into their undergraduate management courses. According to Chau (2013), students using 3D virtual platforms to engage in their learning received higher scores on explaining abstract concepts, analyzing issues, generating solutions, and utilizing accurate applications.

THEME #3—Surrender the Soapbox. Lectures and independent/isolated work are steadily becoming dying methods of instruction. Given the characteristics of Gen Zers articulated in the first section of this paper, the faculty member who prides him/herself as a "sage on the stage" will undoubtedly pose a real problem with this generation of students. Similarly, the approach of giving students independent work that heavily reiterates what was covered by the "soapbox" lecture or involving the completion of printed exercises and problems will put this generation to sleep. These types of teaching methods have been coined by Bowman (2001) as "death-by-lecture" and "death-by-worksheet." As Pink (2006) has pointed out that the soapbox and isolated learning methods are no longer passports to the capacity to learn and the key to future success that it once was. One of the ways that Gen Zers learn best is through "chunking" of information as opposed to a long-drawn out lecture. They prefer to engage with a community of learners of shared interests using interactive multimedia. Thus, teaching Gen Zers must move beyond the one-way depositing of knowledge and the routine of individual work, to collaborating with faculty and working and connecting with learners of shared interests, locally and globally. This is what motivates and engages them in learning. This works well because this generation of students feels a responsibility to take action, remedy the problems, and effect social change. These students are interested and invested in subjects and actions that they feel can immediately impact their own communities and communities around the world (Levit, 2015).

Through innovative adaptation of current technology, students will be able to experience rich, meaningful, intensive, and extensive cross-cultural virtual teaming collaborations, which are otherwise difficult to acquire in traditional, lecture-styled courses in higher education.

It is clear that technology can be used to advance learning. But the question is "How can this be done with little professional development or training for faculty?" Fullan (2013) proposes a solution that does not "cost a single penny." His "student labor" approach involves students teaching faculty about technology, students helping other students who may be digital natives but face a digital divide; and in doing so, they deepen their own learning while experiencing. This new learning relationship between faculty and students, which is introduced next, will require a markedly shift in mindset and pedagogy.

THEME #4—Meddle in the Middle. In this very complex landscape of teaching Gen Z's, faculty need to shift their mindset and role of "sage-on-the-stage" to "meddler-in-the-middle." In the meddler-in-the-middle teaching approach, the faculty is learning and doing, making mistakes, and engaging in trial and error, alongside students. Faculty are no longer spending much time moving from desk to desk, monitoring distracted students, or hovering over aloof students. Meddling deviates from the traditional roles of instructors and students to co-partners in teaching and learning. Student-faculty partnerships are defined as a "collaborative, reciprocal process through which all participants have the opportunity to contribute equally, although not necessarily in the same ways, to curricular or pedagogical conceptualization, decision making, implementation, investigation, or analysis" Cook-Sather, (2014).

McWilliam (2015) points out that the meddler-in-the-middle spends:

- less time giving instructions and more time on being a useful but "naive" team member in the midst of active learning;
- less time being a risk controller and more time being an experimenter, risk-taker and learner;
- less time being a classroom auditor and more time being a designer, editor and assembler of challenging tasks;
- less time being a "sage on the stage" and more time being a collaborative critic and authentic evaluator; and
- less time on focusing on grades and more on the achievement of personal bests.

This approach and shift in pedagogy will present a challenge in higher education. How do faculty and students work together, side-by-side? To answer such a question warrants a significant transformation in the deeply rooted power differentials that permeates throughout academia. Faculty need to acknowledge that students possess great ideas about how teaching can be improved to increase their engagement in the classroom. Students need to recognize that faculty have extensive knowledge and experience in their field of studies. When this happens, the willingness to share opportunities of learning and two-way exchanges of intellect will transpire.

This is not easy. Doktor (2016) suggests that faculty take simple and small steps and start by collaborating with students to:

- Design in-class activities including participation requirements;
- Create course assignments along with grading options;
- Teach course topics using engagement techniques;
- Develop assessment rubrics with clear expectations of "success;" and
- Implement course lectures with interactive components.

In conclusion, "meddling has powerful implications for what 'content' is considered worthy of engagement, how the value of the learning product is to be assessed, and who the rightful assessors are" (McWilliam, 2015).

THEME #5—Revalue the Notion of “Play.” Traditional teaching practices, the unyielding educational systems, and the long-established, conventional expectations of higher education administrators, students’ parents, Board of Regents, and legislators are obstacles to meeting the teaching and learning needs of Gen Zers. College and university faculty will need to revalue the notion of “play,” reexamine what it means to today’s students, and reintroduce into their classrooms. Kane (2004) defines play as the “dominant way of knowing, doing and creating value in the 21st century.” If we embrace Kane’s definition, then higher education institutions and faculty will need to “play,” and create educational social environments where students can once again be curious, energetic, creative, dynamic, synergistic, imaginative and fearless in the face of an unpredictable, competitive, fast-paced, technologically-demanding, emergent world. For example, faculty can start by awakening the curiosity, creativity, and imagination of Gen Zers, and asking questions such as: ‘How would you explain biotechnology to Shakespeare?’ The inherent value in such a question: (a) moves faculty away from their expertise within their disciplines, (b) is not researchable on Google, and (c) elicits a multitude of ingenious interpretations and responses. In this instance, “play” combines two conflicting concepts to create an unforeseen erudition, activating, engaging, and building upon the innovative capacity of Gen Zers (Egan, 2008).

Gen Z Overview

Gen Zers are changing what happens in teaching and learning in higher education. There is a government mandate to increase graduation, transfer, and degree completion rates, faculty ingrained in traditional teaching practices and conventional ways to deliver instruction will easily fall into the mode of “teaching to the test.” Gen Zers, while they prefer active, participatory learning, their characteristics of wanting things done speedily, and continuously trying to find and take shortcuts (Rothman, n.d.), may put them in a quandary. They may comfortably become passive consumers of their education. “Quickly and precisely tell us the five key points that will be covered on tomorrow’s exam so that we can pass it.” It is our responsibility as faculty to not let this happen. Thus, faculty must meddle-in-the-middle in ways that continually ignites the curiosity of the engaged Gen Z learner; stand up against bureaucratic demands; and possess a repertoire of new technological skills (introduced in the next section) to teach and engage this student population so that they can learn.

According to Oblinger and Oblinger (2005, p.12), ‘the Internet is like oxygen; they cannot imagine being able to live without it’, it is like a vehicle for interaction. It is evident that the Internet has radically changed the way students gather and process information. Moreover, as stated by Cowan (2014), we live in the age of big data, and 90 percent of all the information on the Internet ever produced has been created in the past two years. Learning to analyze such huge amounts of data may hold great rewards. As far as the amount of information they get is concerned, the mighty Internet provides learners with much more information than earlier generations could get in the analog world.

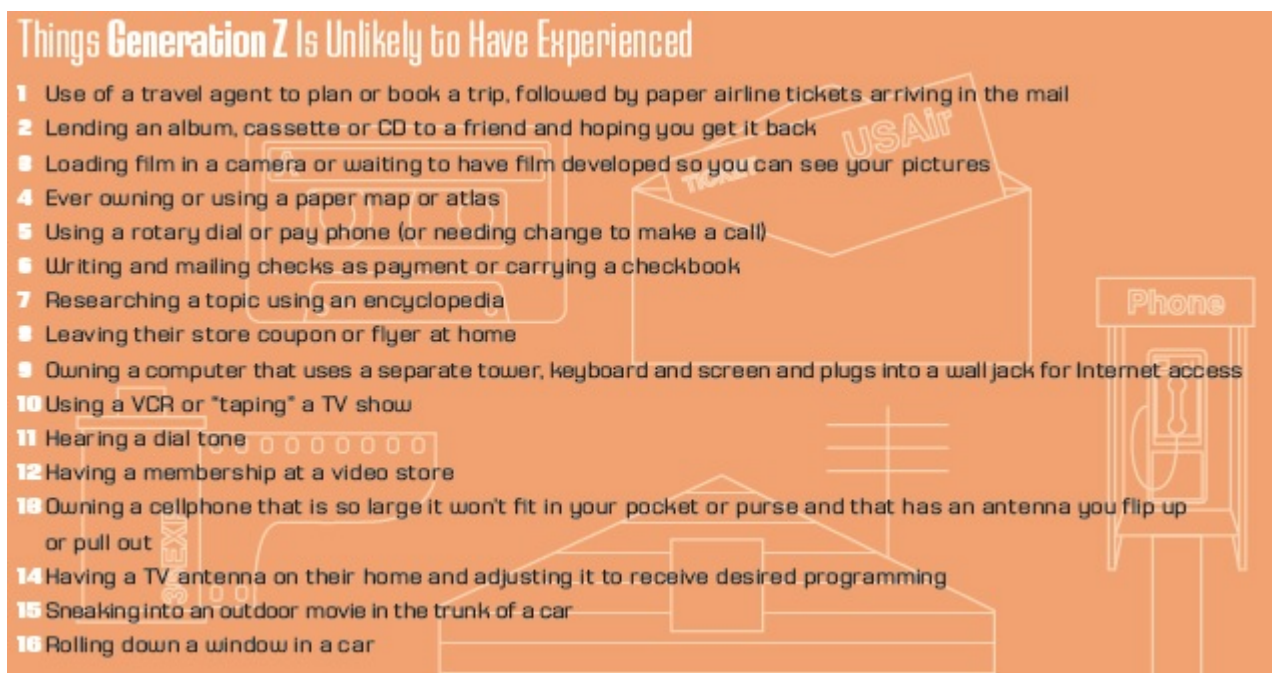
Furthermore, Generation Z have poorer face-to-face social and conflict resolution skills, are susceptible to distractions, requiring blended online/face-to-face collaboration, valuing an organized, structure workplace and predictability, having strong multi-tasking skills with reliance on social media. However, ‘a growing body of evidence suggests that this multi-tasking is detrimental to learning and cognitive development’ (‘Knoll workplace research’, 2014, pp.3-4). For instance, a student may attempt to read information from a page of their textbook on a tablet or even a smartphone while viewing an online video related to another homework assignment on his/her computer screen and/or while continuing texting friends at the same time. Clearly, being bombarded with too much information from different sources at the same time may hinder students’ ability to concentrate on one specific task and may result in poorer quality of learning. As regards face-to-face social skills, Generation Z have poorer such

skills because they spend even bigger portions of their social life online as compared to earlier generations. Social media technologies are at the centre of students' social world rather than supplementing face-to-face relationships ("Knoll workplace research", 2014). The students are constantly connected to the Internet thus spending most of their lives in the digital environment. With a bigger online experience, Generation Z may feel more comfortable in online academic communication and collaboration and fall behind earlier generations in social skills.

Interestingly, Targamadze (2015) identifies the following features of Generation Z: growing hyperactivity, infantilism (lack of maturity), communicative, multimedia literacy, social autism, consumerism, lack of skills in analytical evaluation of a text and rendering its meaning, individualism, unwillingness to work in groups, Internet addiction, lack of self-confidence, social media addiction, distraction, different ways of reading and thinking, restriction of interest only to such activities that are interesting and relevant to them, preferring intensive work, curious, result oriented, impatient, usually not able to complete their work, etc. If earlier a text was used to be read line by line which resulted in easier understanding of it, the present method of reading follows the pattern of a loop way that is similar to reading websites on the Internet where every click on the mouse opens a new site (Targamadze, 2005, p. 97). As the author explains, reading a hypertext is more difficult, a student is able to remember just the keywords and is subjected to bigger cognitive loads, which results in a more superficial way of acquiring information, lack of analytical and critical thinking and difficulties in understanding. As Cowan (2014) explains, Generation Z prefers watching videos instead of reading, with YouTube greatly influencing their lives. Social autism is interpreted as not a psychological disorder but the way to escape from the real world because of loss of social skills for face-to-face communication (Targamadze, 2015, p. 97). Infantilism suggests that adoption of it may hinder learners from a serious approach to learning and their performance at universities. The typical Generation's Z instinct is to pursue speed instead of accuracy'. Similarly, Cowan (2014) warns that this generation has on the fly learning ability, which means that they learn quickly without preparation or thinking much or even while doing something else.

Also, Cowan (2014) lists the following characteristics of Generation Z: overprotected, worldly, pragmatic, connected, creative, pressured and communitarian. In the explanation of overprotected, the author (2014, p.16) states that this is 'because their parents have been diligently sweeping away the ice that lies in their path'. The question inevitably arises whether they will demand the same atmosphere to be created at universities. By worldly, the author (ibid) means that this generation travels a lot and communicates with people from all around the world thanks to unlimited opportunities the Internet offers. As stated by the author (ibid), this generation uses smartphones as an extension to their body, i.e. they even use images and videos from them to illustrate their points. However, 'as they strongly develop their skills for navigating and using information, their base level of factual knowledge often remains naïve' (Cowan, 2014, p. 16). This allows to make an assumption that this generation do know where to find information but that does not mean that they really possess necessary amounts of knowledge. As regards creativity, Cowan (2014, p. 10) calls this new cohort of people an Artist generation because 'they tend to be the one to produce, historically, the most challenging, thought provoking art'. The author (2014, p.16) also warns that Generation Z tends to learn more from the peer groups rather than parents and 'their communitarian inclinations are due to rebelling against a sheltered upbringing' when they were constantly monitored by their parents. Accordingly, one may assume that the new generation of learners would be more satisfied if given more freedom.

According to the national survey undertaken by Northeastern University in the United States of America (“Innovation Imperative”, 2014), Generation Z are pluralistic, highly entrepreneurial, believing that it is important for colleges to teach entrepreneurship, expecting to work for themselves during their careers. They prefer a traditional undergraduate experience augmented in innovation that offers hands-on experience and practical skills, expect higher education institutions to allow them to design own course of study or major (ibid). According to the results of this survey (ibid), Generation Z are self-reliant but troubled about the future. Cowan (2014, p.12) also warns that Generation Z “are quite vulnerable when life throws up challenges and difficulties”. Thus, the need for complete self-reliance is questionable. To conclude, Generation Z is similar to the previous generation – Generation Y – in terms that both generations were born and raised in technology rich environment that has resulted in perfect digital literacy and heavy reliance on technology. Considering the most common characteristics of Generation Z discussed above, positive influence on learning seems to be exerted by greater technological advancement, reliance on a bigger number of constantly connected devices and possession of numerous sources of information, feeling comfortable in online communication and collaboration, worldliness, strongly developed skills for navigating and creativity. In contrast, the characteristics that may be detrimental to learning are: being susceptible to distractions, having strong multitasking skills, loss of face-to-face communication skills, loss of social skills, infantilism, individualism, different method of reading, the feeling of being overprotected, preference for games instead of serious work, vulnerability when facing challenges and difficulties in real world situations, impatience, and preference for speed instead of accuracy.



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