Adapting your teaching to accommodate the net generation of learners

Abstract

Educators are faced with the challenge of adapting their teaching styles to accommodate a new generation of learners. The Net Generation or Millennials, who are now entering colleges and universities, have learning expectations, styles, and needs different from past students. This article assists educators in teaching the Net Generation by highlighting the characteristics of the Net Generation and providing examples of how to adapt teaching strategies to accommodate the Net Generation, in light of their preferences for digital literacy, experiential learning, interactivity, and immediacy.


Key words: learning strategies, Net Generation, teaching strategies

Compounding current issues and challenges are the demands of a new and unique population of learners converging upon higher educational institutions.

Higher education is at a crossroads, faced with many new demands and challenged with decreasing funding from both state and federal sources. There are increasing demands for accountability from a variety of constituencies both inside and outside of the academy. There are demands for curriculum revisions which will graduate learners with the necessary skills to meet changing workforce needs. There are mandates to meet requirements for an appropriate information technology infrastructure, including network security and disaster recovery. The challenges of aging faculty point to the potential for faculty shortages. Compounding current issues and challenges are the demands of a new and unique population of learners converging upon higher educational institutions.

A common way to classify the population into age groups is based on the time period in which one was born. Oblinger and Oblinger (2005) developed a classification system that describes various generations as Matures (1900-1946), Boomers (1946-1964), Generation X (1965-1982), and Net Generation/Millennials (1982-1991). This classification demonstrates the often noted overlap in years among classifications. Howe and Strauss (2000) classified the generations as: Boomers (1943-1960), Gen-X (1961-1981) and Millennials (1982-present). In most instances, faculty are primarily Matures or Boomers. However, the student population crosses all generations with the newest, the Net Generation, or Millennials, who are now entering colleges and universities, having learning expectations, styles, and needs different from past students. This article assists educators in teaching the Net Generation by highlighting the characteristics of the Net Generation and providing examples of how to adapt teaching strategies to accommodate the Net Generation, in light of their preferences for digital literacy, experiential learning, interactivity, and immediacy. Background Active learning is an important aspect of the andragogical approach to effective teaching which engages adult learners in the classroom. Students who are actively engaged in the classroom have improved retention of knowledge (Knowles, Holton, & Swanson, 2015). Online simulation-based learning experiences represent actual situations where students are able to enhance their knowledge, skills, and attitudes in an online environment (Meakin et al., 2013). Adapting your teaching to accommodate the net generation of learners. Online Journal of Issues in Nursing, 11(2), 12 (Manuscript 4).

D.O.I: 10.3912/OJIN.Vol11No02Man04
The purpose of this article is to describe the characteristics of the students of the Net Generation and their impact on higher education as it relates to shifting the teaching-learning paradigm. The remainder of the article will focus on members of the Net Generation and their preferences for digital literacy, experiential learning, interactivity, and immediacy. For each of their preferences, there are examples of how faculty can adapt their current teaching strategies to accommodate the learning needs of the Net Generation.

The Net Generation Learners

The Net Generation or Millennials, born in the 1980s, have unique characteristics that differentiate these students from other generations. These unique characteristics are challenging the traditional classroom teaching structure, and faculty are realizing that traditional classroom teaching is no longer effective with these students. As Prensky (2001) stated, "Our students have changed radically. Today's students are no longer the people our educational system was designed to teach" (p.1).

Several authors (Brown, 2000; Frand, 2000; Howe & Strauss, 2002; Merritt, 2002; Oblinger, 2003; Tapscott, 1998) have written on the characteristics of the Net Generation. Tapscott (1998) described the Net Generation member as an assertive, self-reliant, curious person who is enmeshed in an interactive culture that centers around 10 board themes. These themes include:

- **Fierce independence:** Their sense of autonomy derives from their experiences of being an active information seeker and creator of information and knowledge.
- **Emotional and intellectual openness:** The N-Geners value the openness of the online environment, like anonymity, and communicate through numerous tools.
- **Inclusion:** They view the world in a global context and move toward greater inclusion of diversity.
- **Free expression and strong views:** With access to knowledge resources at their fingertips, the N-Geners are assertive and confident.
- **Innovation:** This group is constantly trying to push the technology to its next level and figure out how to create a better world.
- **Preoccupation with maturity:** Armed with knowledge, they strive to be more mature than their predecessors.
- **Investigations:** Curiosity, discovery, and exploration are key for this generation.
- **Immediacy:** This generation views the world as 24/7 and demands real time and fast processing.
- **Sensitivity to corporate interest:** Consumer savvy, these customers like customization and want to have options and to try before they buy.
- **Authentication and trust:** Net savvy individuals, they know the need to verify and check resources and authenticate people.

Howe and Strauss (2000) described additional characteristics such as their fascination with new technologies, their need for group activity, their emphasis on extracurricular activities, and their focus on grades. Millennials think being smart is cool. They are close to their parents and are one of the most ethnically and racially diverse group of students in academia.

Given these characteristics, it is obvious that this generation demands a new learning paradigm. The traditional teaching paradigm, prevalent in higher education for many years, focused on the role of instructor as the "sage on the stage" who disseminated knowledge through lectures and PowerPoint slides. Brown (2000) refers to it as the authoritarian, lecture-based model of education. This traditional teaching emphasized the acquisition of facts or, as Oblinger (2005) noted, content-focused learning. Faculty from previous generations were text-based; focused on logical sequencing of knowledge; emphasized memorization, repetition, and recall; believed "one size fit all"; and saw the teacher as master and commander (Brown, 2005). As you will see in the next section, the Net Generation requires a learner-centered model of education with a shift from the traditional teaching paradigm to a constructivist learning paradigm (Brown, 2005). Net Generation learners focus on understanding, constructing knowledge using discovery methods, and active engagement; want tailored and option rich learning; and view the teacher as expert and mentor (Brown, 2005).

Net Generation Characteristics and Teaching Adaptation Examples

Net Generation characteristics include digital literacy, experiential and engaging learning, interactivity and collaboration, and immediacy and connectivity. To illustrate the implications of the paradigm shift described above to these new ways of knowing, the following section will highlight major characteristics...
The Net Generation grew up and is comfortable in a digital world. Action and what the technology enables them to do is more important than the particular technology (Oblinger & Oblinger, 2005). As a part of this digital literacy, Net geners are both information and multimedia literate (Brown, 2000). They have the ability to read visual images and have visual spatial skills (Howe and Strauss, 2000). As Oblinger and Oblinger stated, "They are more comfortable in image-rich environments than with text." This is best illustrated in the situation described by Oblinger (2005) in which a student in a lecture realizes that he does not understand the teacher’s lecture, and even the PowerPoint (text) slides provide no new insights. This student, using his wireless laptop, canvasses other students in the class via text messaging and IM (instant messaging) and discovers they too do not understand the lecture. To solve this problem, the student googles the concept, finds a URL with simulations that better explain the concept, and immediately transmits the URL to others in the class. It is important to remember that the Net Generation seeks immediate information and knowledge not by finding it in a textbook, but by connecting to the Internet.

### Digital Literacy Examples

In order to teach Net geners effectively, wired classrooms are a must. Since they don’t respond to lecture format, it is important to take advantage of their multi-tasking ability by posting course notes with relevant web links so that students can explore relevant resources and become engaged with the content. It is especially important to direct students to discipline-specific databases such as CINAHL, MEDLINE, or Web of Science rather than relying solely on Internet search engines. Nursing education, it is particularly important for students to learn how to use handheld devices, such as PDAs, to facilitate evidence retrieval at the point of care. Incorporating technologies that facilitate the nurse’s role as a knowledge worker will not only engage Net geners, but may help transform the nursing profession as well.

To meet the needs of students, think about developing a web page for each course. The web component can contain class materials, notes, slides, a weblog, and other pertinent multimedia. This is not only important to the net geners but also to nontraditional learners who appreciate the flexibility of finding class materials while perhaps living off campus. One may also want to consider having a blended course with some face-to-face time and some web-based interactions; this is particularly relevant for the nontraditional student. What is important is that the web-based component needs to be interactive and engaging not just a static web page dispensing content.

The Net Generation lives in a mobile world which facilitates their multitasking nature. Think about podcasting some important lectures so that students can listen to these lectures on their iPods or other MP3 devices. For more information about podcasting, see articles by Skiba (2006) and Maag (2006).

### Experiential and Engaging

Net learners want to construct their knowledge. They have a bias towards action (Brown, 2000) or as Oblinger and Oblinger (2005) described it, they are first person learners. They want to immediately engage in the process. Discovery learning (Brown, 2000) builds upon their characteristics of fierce independence and investigative nature (Tapscott, 1998). Net Generation learners like to express their views and incorporate their experiences into their learning (Tapscott, 1998). Learning is not done in isolation and they learn by doing. According to Frand (2000), "the key to winning Nintendo is the persistent trial and error to discover the hidden doors" (p.17). Brown referred to the Net Generation as digital bricoleurs. He noted that this generation collects bits of information, objects, or tools to create something new. Visualizations, simulations, case analyses, and other methods of participatory learning such as fieldwork are all part of the learning repertoire.

### Experiential and Engaging Examples

The use of simulation technologies will help engage learners in a process that provides the interaction they desire with the feedback they need in real-time situations. Through the design of pertinent scenarios, faculty can direct learning in a way that facilitates student understanding of subtle changes that occur in patient care. This may help prepare Net Generation students for the transition to the work force as new nurses by nature “tend not to focus on individual client needs” and “may be unaware of relevant cues in changing client situations” (Howe and Strauss, 2000, p. 490).

Blogging is another method that allows students to interact and become engaged in the course. In short, a blog is a web-log which allows students to contribute to and comment on the blog entries. Learners can research their information and provide their reflections on their learning through the blog (Skiba, 2005).

Another example is that of an interactive, engaging web environment that allows learners to interact with the instructor, other learners, or with the content. One example of having learners interacting with content is the use of a dynamic web page, such as the National League for Nursing chapters in a “living” book (Brown, 2000). As learners work their way through the chapters of this electronic book, they are directed to web sites to find information and respond to questions. In one of our classes, we assign learners a chapter in this book to learn about the Net Generation. To view these interactive chapters, go to web sites to find information and respond to questions.
Interactivity and Collaboration

...the Net Generation prefers to work in teams and participate in peer interactions.

Learning is a social activity (Tapscott, 1998), and as such should be engaging and interactive. Interactivity can occur with students, faculty, other professionals such as experts in the field, and with the content itself. Millennials gravitate toward group work (Howe & Strauss, 2000). Net learners do best when they construct their knowledge (Brown, 2000; Oblinger & Oblinger, 2005; Tapscott, 1998). “The TTT (talk, text, test) approach” (Oblinger & Oblinger, 2005, p. 2.13) is not valued by the Net Generation. TTT represents the traditional teaching paradigm of lecturing, asking students to read text, and giving a test to insure they have recall and acquisition of facts. Rather the Net Generation prefers to work in teams and participate in peer interactions. According to Crittenden (2002), the wired generation is more social and inclined to participate in learning activities that promote social interactions. Social interactions reinforce their use of IM, blogging, gaming, and their large global network. As Oblinger and Oblinger point out, interaction is a key element of learning. If classroom or online teaching does not provide opportunities for interactions, the Net Generation will not come to class.

Interactivity and Collaboration Examples

...the use of Clickers or interactive response devices is another example of fostering interaction within a lecture hall environment.

The interactivity and collaboration desires of the Net geners allow for the implementation of creative teaching strategies in the area of collaborative learning. While previous generations have consistently rallied against the concept of “group work,” Net geners embrace collaborative learning in both face-to-face and virtual venues. Think about the incorporation of chat rooms and web-based collaborative learning centers that allow students to share a common workspace with group members by using white boards and document sharing. For example, at the University of Colorado at Denver and Health Sciences Center, informatics specialty students interact with each other in a web environment (I-Collaboratory) that allows collaborative workspace. Learners can co-edit documents and interact using chat rooms, audio, or video conferencing (Skiba, Barton, Howard, Fields, & McCullar, 2004). In the I-Collaboratory, students can designate space to work with each other. They can store documents and schedule synchronous meetings over the Internet. The collaboratory concept facilitates collaboration and sharing while requiring learners to be active participants in the learning process.

In the classroom, the use of Clickers or interactive response devices is another example of fostering interaction within a lecture hall environment. The faculty member can create higher interactive learning experiences by asking learners to use these devices to select responses to questions, thus interacting with the content. Responses are then automatically displayed for all in the class to see.

For Net geners, the notion of collaboratively constructing knowledge within a social community is very appealing.

Once responses are displayed, faculty can ask learners to talk with each other as to why they choose their particular response. Then the class can select responses again and the new results can be displayed. Use of these devices engages the students in the content, promotes interactivity with colleagues, and takes advantage of teachable moments in the classroom.

Another example of interactive and collaborative learning is the increasing use of wikis by the Net Generation learners. According to Wikipedia (March 15, 2005), “A wiki is a website that allows users to add content, as on an Internet forum, but also allows anyone to edit the content. It also refers to the collaborative software used to create such a website.” According to Skiba (March/April 2005), “The defining characteristics of a wiki are: social software that allows the ability to edit and add to a wiki document with relative ease; a simplified hypertext markup language for creating documents; and open editing philosophy in which the community can edit and add to the document” (p. 120). For Net geners, the notion of collaboratively constructing knowledge within a social community is very appealing.

Immediacy, Connectivity & Communications

...the Net Generation has little tolerance of delays.

As Frand puts it, the Net Generation has little tolerance of delays. They live in a 24 x 7 x 365 world. They expect instant access and instant responses. Email is “so yesterday” when you can IM (instant message) or text message someone immediately. Net geners are multiskackers (Brown, 2000) and used to being bombarded by multiple processes at twitch speed (Prensky, 2001). They are mobile nomads who are always connected. (Rheingold, 2003). Their connectivity via cell phones, wireless PDAs, or laptops fosters fast and quick communication. They use short hand communications that seem like hieroglyphics to the digital immigrant population. As a part of their networked society, they have an emotional and intellectual openness as well as a respect for diversity and free expression (Tapscott, 1998).
It is important for faculty members to communicate with students up front so they know when they can expect to receive feedback.

Try using IM during your office hours. Make sure to tell learners when you are available and that IM does not work 24/7. In our program, we also set up video conferences over the Internet.

The need for connectivity and communication can be exploited to remove mundane tasks from the classroom. For example, at our institution, clinical placement scheduling has been centralized for all clinical courses. It is conducted via a web-interface two months prior to the clinical rotation. Students indicate their preferences by rank ordering the clinical site and shift schedule. A random number generator is used to sort students and fill site rosters based on student preference. Students know their clinical schedule more than a month in advance and are able to adjust work and childcare responsibilities as needed.

Summary

There is no question that this new generation of students is challenging the traditional teaching paradigm in higher education. In order to accommodate the Net Generation in nursing education, it is important to devise learning activities that align with their learning styles and expectations. It is also important to remember that one should start with the content to be mastered and then figure out what technologies might enable the activity. To begin this process, ask yourself, your colleagues, and your administrators the following questions drawn from Carlson, 2005; Oblinger and Hawkins, 2005; Skiba, 2005; and Sweeney, 2005:

1. Do you know your students and their preferences?
2. Once you know their preferences, how will you adapt or accommodate?
3. What balance between the physical (classroom) and virtual worlds of learning is appropriate for your student population?
4. Are there renovations to your physical space that need to be targeted for your learners?
5. What is the balance between faculty and student perspectives?
6. How do you engage your learners and what are the best methods for incorporating IT into your teaching?

Authors

Diane J. Skiba, PhD, FAAN, FACMI
E-mail: Diane.Skiba@uchsc.edu

Diane J. Skiba, PhD, FAAN, FACMI, is a Professor and Health Care Informatics Option Coordinator at the University of Colorado at Denver and Health Care Sciences Center. She earned her BA from Southern Connecticut State College and her PhD from the University of Virginia. Since 1982, she has taught nurses in the field of nursing informatics. She currently is funded by the Health Resources & Services Administration (HRSA) Division of Nursing Advanced Nurse Education Training grant to prepare nurses in the field of informatics. This grant supports their online Masterâ€™s degree program and funds the i-Collaboratory, an online community to support informatics learners. Dr. Skiba was instrumental in spearheading an academic-business partnership with McKesson Corporation and is the current Chair of the National League for Nursingâ€™s Educational Technology and Information Management Advisory Council. She writes an Emerging Technologies Column in Nursing Educational Perspectives. She serves on several editorial boards and recently co-edited the Nursing Administration Quarterlyâ€™s 2005 Winter edition on the transformation of nursing practice through the use of information technologies. She is a Fellow in the American College of Medical Informatics and a honorary Fellow in the American Academy of Nursing. She has received several teaching awards and most recently received the National League for Nursingâ€™s Excellence in Teaching Award.

Amy J. Barton, PhD, RN
E-mail: Amy.Barton@uchsc.edu

Dr. Barton earned a BSN from the University of Toledo, a MSN from the Medical College of Ohio, and a
PhD from the University of Florida. She is responsible for oversight of faculty practice, the coordination and staffing of over 600 clinical education placements per semester, and online education support for 40 courses per semester. Her unique contributions occur at the crossroads of administration and informatics, with a focus on data-based decision making. She established an informatics infrastructure to support faculty practice, document the value added component of nurse practitioner care, and mentor clinical faculty in the conduct and dissemination of research. She has published articles and book chapters on topics including faculty practice, patient outcomes, and informatics. Her current research examines the use of informatics interventions to enhance health promotion of vulnerable populations. Dr. Barton is a member of the 2005 cohort of the Robert Wood Johnson Executive Nurse Fellows. She is currently secretary of the Board of the National Nursing Centers Consortium. She also serves on the Consortium of Omaha System International. She is a member of Sigma Theta Tau International, the American Nurses Association, and the American Medical Informatics Association. She was elected to membership as a Distinguished Practitioner in the National Academies of Practice (1998). Awards include recognition as an Emerging Leader in the University of Colorado system (2004-05) and the Chancellorâ€™s Recognition for Promoting and Supporting Diversity (2003).

References


Related Articles

- Integrating Generational Perspectives in Nursing
  Marla J. Weston, RN, MS (May 31, 2006)

- Inter-Group Conflict in Health Care: UK Studentsâ€™ Experiences of Bullying and the Need for Organisational Solutions
- Addressing Multigenerational Conflict: Mutual Respect and Carefronting as Strategy
  Betty R. Kupperschmidt, EdD, RN, CNAA (May 31, 2006)

- Leading a Multigenerational Nursing Workforce: Issues, Challenges and Strategies
  Rose O. Sherman, EdD, RN, CNAA (May 31, 2006)

- The Integration of Technology into Nursing Curricula: Supporting Faculty via the Technology Fellowship Program
  Lawrette Axley, PhD, RN, CNE (August 8, 2008)

- Why Emotions Matter: Age, Agitation, and Burnout Among Registered Nurses
  Rebecca J. Erickson, PhD; Wendy J. C. Grove, PhD (October 31, 2007)