Adapting Strategically to Changing Times in Health Professions Education: A Generational Workshop for Educators

Stefanie M. Attardi, PhD, Tracey A.H. Taylor, PhD, Sarah Lerchenfeldt, PharmD, Rebecca L. Pratt, PhD, Kara E. Sawarynski, PhD

*Corresponding author: sawaryns@oakland.edu

Abstract

Introduction: Health professions classrooms are filled with a new generation of students: iGen/generation Z. Much is known about millennials’ educational needs, but they no longer comprise the majority of student populations. Research indicates that curricular strategies once useful for millennials may be ineffective for iGen. Due to multiple and surprising generational differences including ubiquitous technology, verbal/social/reading skills, and attention spans, educators might struggle to reach iGen members and are encouraged to re-examine instructional methods with iGen in mind. Methods: We designed this 90-minute workshop to give educators an informed understanding of iGen and discuss curricular adaptations intended to maintain educational quality through a literature-based presentation, self-assessment activities, and case discussions. We delivered the session to multiple diverse groups of health professions educators and staff. The attendees evaluated the workshop’s quality and its longitudinal impact using 5-point Likert-style agreement surveys. Results: Respondents deemed the topic crucial to professional development and rated the content highly relevant (100% agreement/strong agreement). Longitudinal respondents could recognize iGen and personal characteristics (79% agreement or strong agreement) and the majority (58%) agreed/strongly agreed they were able to implement new instructional strategies. Discussion: Although educators are aware of typical generational differences, many are surprised to learn the unique attributes of their iGen student population. Workshop participation allowed educators to better understand both iGen students as well as how their own generational characteristics might relate to iGen members. Gaining this perspective allows educators to more adeptly create and deliver content to current health professions students.

Keywords
iGen, Generation Z, Generational Differences, Faculty Development, Communication Skills, Case-Based Learning, Interprofessional Education

Educational Objectives

By the end of this activity, faculty learners will be able to:

1. Identify personal as well as generational characteristics.
2. Analyze key literature-based iGen characteristics and contrast them with previous generations of students.
3. Compare and contrast their own generational traits with iGen traits.
4. Explore how health professions curricula and behaviors can be more strategically adapted without compromising curricular quality.
5. Transfer information discussed and potential next steps to their home institution.

Introduction

A new generation of students (iGen¹ or generation Z²) has entered health professions training. This generation is distinctly different from older cohorts and the literature suggests that educators need to adjust pedagogy to best engage iGen students.¹,² Most generational experts agree that iGen includes individuals born between 1995 and 2012.¹,² This period coincides with the widespread growth of the internet, creating an entire generation (roughly one quarter of the US population) that has lived exclusively in the internet era. The oldest members of iGen now comprise significant portions of health professions education programs. For example, over one third of matriculants at United States allopathic medical schools in 2017 and 2018 fell within the iGen range, and the proportion approached 70% by 2019.⁹,¹⁰
Research has shown that collectively the iGen population possesses many unique attributes. These attributes likely stem from the life experiences of both iGen’s parents and iGen members themselves, including the 9/11 terrorist attack, school and mass shootings, popularity of smartphones, and the 2008 financial recession. Some characteristics that are distinct to the iGen generation include ubiquitous technology and social media, decreased responsibilities during adolescence, diminished verbal and face-to-face social interaction skills, attention span deficits, diminished critical reading skills, cautiousness, pragmatism, social inclusivity, and high expectations regarding the immediate access to and delivery of information.

Generational experts state that these distinctive attributes will require that educators adjust current pedagogy to better align with the needs of the iGen learners. It is also important to consider that health professions educators belong to older generations (e.g., millennials, gen X, baby boomers, silent generation) and are unlikely to understand or share the needs of iGen. Teaching effectiveness will likely increase with careful examination of iGen attributes among health professions students, as well as the feasibility of introducing curricular change within the context of health professions education.

It is critically important to identify the needs of both the collective current iGen student population, as well as individual iGen students, and appropriately adjust. Although each student will have individual learning style preferences and needs, collectively iGen members are expected to struggle with professionalism and lifelong self-regulated learning skills when compared with previous generations (e.g., time management, professional communication mechanisms, face-to-face social interactions, and critical reading and information literacy skills). As this generation has not yet been in higher education classrooms for a longitudinal period of time, little to no longitudinal research exists on the ideal educational modalities for successful iGen learning. But, by examining the generation’s unique attributes, clear tie-ins to common educational practices can be found (both positive and negative in their likely effect for iGen students). This workshop was developed to provide current health professions educators a better understanding of their current health professions students’ unexpected and unique characteristics, and to identify manageable educational adjustments within an existing curriculum that can be instituted to promote the engagement and development of iGen health professions students.

The workshop was designed to be facilitated by a single facilitator, small group, or multidisciplinary team, and provided to a mixed audience of health professions faculty, clinicians, and staff. The workshop consisted of the facilitators reviewing the literature, participants sharing their own iGen experiences from the classroom, and facilitators fostering discussions promoting interinstitutional dialogue. Through self-assessment, focused discussions and classroom case scenarios, workshop participants were able to develop effective iGen educational strategies and modifications. The workshop promoted rich discussion of how health professions educators are tasked with not only discipline-driven teaching, but also facilitating the life skills development of their students. Participants left the session with key ideas for the development and implementation of small, iGen-friendly interventions, and also an understanding for student issues that are driven by generational traits.

The workshop built from previous generational work, including several MedEdPORTAL millennial generation workshops. Previous MedEdPORTAL workshops focused on the unique characteristics of older generations, including the millennials. Although many educational lessons were learned from these sessions and resources, the information is no longer relevant to current iGen health professions students. As health professions educators face this radically different generation of students already in our classrooms, it is crucial to develop and implement strategies and resources to allow educators (widely made up of earlier generations) a means to better understand their current students and future colleagues. Successful identification of easily implementable, discipline transferable, and appropriate educational adjustments are critical to aligning curricular demands with the perspectives of iGen students.

Methods

Curricular Context
We delivered this workshop as a 90-minute faculty development session to several multidisciplinary groups of faculty/administration/staff. Workshop participants included frontline educators from both preclinical and clinical disciplines, as well as health professions education staff, and administration. Several undergraduate- and graduate-level medical students also participated in the workshops. No prerequisite knowledge was required for participants; however, they benefited the most if they have had some experience teaching in a health professions curriculum.

Materials and Preparation
The workshop combined an engaging PowerPoint presentation (Appendix A), notes for facilitators in a facilitator’s guide (Appendix B), two self-reflective activities (Appendices C and D), prepared classroom scenario group activities (Appendix E),
and a handout on postsession strategies and literature cited (Appendix F). Because of copyright issues, all of the figures presented to the participants have been removed and replaced by placeholders with references. No specific skills were required for implementing this workshop, although facilitators should prepare by familiarizing themselves with the factual information about iGen summarized in the PowerPoint slides. Facilitators were encouraged to read the literature cited; however, the information in the PowerPoint exclusively will provide all parties with a foundation from which to engage in productive discussions during the session. The workshop was designed to be facilitated by a single facilitator, small group, or multidisciplinary team and has been delivered in different physical settings, such as a lecture hall with theatre-style seating and a classroom with moveable desks. The optimal arrangement would allow for participants to gather comfortably in breakout groups for discussion.

Workshop Implementation

Upon entering the workshop, participants were given envelopes containing activity 1 (Appendix C; generational self-assessment envelope activity). At the beginning of the session, the facilitators gave brief personal introductions which included sharing disciplines of study and additional institutional service roles that have provided ample opportunities to interact in large groups, small groups, and one-on-one with iGen students. For example, these responsibilities could include serving on an admissions committee, acting as a career advisor, being a research mentor, overseeing peer tutors, etc. After a brief introduction to the goals of the session, the facilitators asked participants to individually complete activity 1 (Appendix C), a generational self-assessment envelope activity. During this 5-10 minute activity, participants discovered their position on the generational spectrum through an exploration of their personal traits and values (objective 1).

A brief (approximately 15 minutes) literature-based overview of iGen (Appendix A; PowerPoint presentation) was then provided by the facilitators. Whenever possible, the facilitators referenced evidence-based sources relating to education and psychology (objective 2). The presentation served to provide participants with foundational knowledge which could be drawn upon during the discussions that ensued as part of the remaining activities. The participants then individually completed activity 2 (Appendix D; iGen self-assessment activity). During this activity, the participants examined their self-assessment results and put to use their new knowledge of iGen in order to assess where they saw themselves in relation to iGen characteristics (objective 3).

Next, the workshop participants were split into at least three groups in order to work through prepared educational scenarios (Appendix E; case study activity) in a small-group setting. These scenarios were designed to bring about rich discussions of multiple iGen characteristics and allow participants to discuss strategies for managing the unexpected and adjust to changing times (objective 4). The scenarios selected were modified based on the intended audience members (preclinical vs. clinical scenarios). A significant portion of the workshop time was dedicated to these discussions, and frequently the small-group discussions were extremely lively and detailed. A set of three questions, consistent across the scenarios, were provided in the PowerPoint to help focus the discussions.

Following the animated small-group discussion of the scenarios, the group at large was brought back together and introduced briefly to all of the scenarios. Continuing to develop workshop objective 4, the large-group discussion was then opened for participants to share responses to the scenario discussion questions, as well as share challenging iGen experiences and success stories from their home institutions. Facilitators should be prepared for discussion points such as: holding students accountable for deadlines, the need for communication and life skills development, encouraging iGen students to work outside of their comfort zone, and the importance of information literacy as it relates to internet resources (additional strategies were highlighted in Appendix F). Workshop participants frequently used their new knowledge of iGen to share how curricular initiatives from their home institutions worked well and/or could be improved to better align with their iGen students.

The facilitators ended the large-group discussion by posing two thought items: think about what struck you the most, and think about what you want to share with your colleagues (objective 5). These questions worked well to wrap up the large-group discussion as well as encourage individual reflection on the workshop information. At the conclusion of the workshop, the participants were provided with a strategies and literature cited handout (Appendix F), which included a summary of possible educational strategies for iGen members (many of which were brought up in the small- and large-group discussions), as well as references used in the presentation. This handout served as a take-home reminder of some of the strategies shared at the workshop and was intended to help participants more easily transfer potential next steps to their home institutions (objective 5).

The timeline and materials (see Appendix B) provided for an efficient use of workshop time. While the workshop was designed to be presented within a 90-minute session, we have found that the audience members routinely wished to participate in
a lively discussion throughout the session. The workshop has also been presented in a 120-minute timeframe, during which the group discussion ably expanded to fill the extra 30 minutes and maintained participant engagement. The recommended number of participants is 25. It is possible to deliver the workshop to larger groups; however, it will limit opportunities for each participant to share their thoughts with the whole group.

Workshop Evaluation by Participants

Workshop quality: Participants were invited to evaluate the quality of the workshop through an anonymous, online survey (Qualtrics XM; SurveyMonkey) emailed immediately following the session. Within each offering of the workshop, the participants at that particular session received the same evaluation form regardless of their position in academia. The survey was originally designed by the Center for Excellence in Medical Education at Oakland University William Beaumont School of Medicine. It is a standard evaluation for all events offered by the Center and has been used for several years to collect feedback from faculty, staff, and administration. Specific items can be seen in Appendix G. Likert-style agreement scales addressed specific aspects of the learning experience, such as importance of the topic, perceived knowledge gain, and quality of materials. A free-form response question allowed them to provide comments on any aspect of the workshop.

Longitudinal impact: The longitudinal impact of the workshop was evaluated through a second anonymous online survey (Qualtrics) emailed to participants 7-10 months after the session. Specific items can be seen in Appendix G. Participants used Likert-style agreement scales to assess their ability to meet each of the workshop’s five educational objectives at present time compared to before the session. Free-form response questions allowed them to provide comments about the most salient lessons they learned and to comment on any aspect of the workshop. For both surveys, descriptive statistics for Likert-style items were calculated using Excel for Mac (Microsoft). Narrative feedback was summarized by the researchers.

Results

Characteristics of Facilitators and Learners
To date, the authors delivered the workshop to three audiences, totaling 93 participants. Though the workshop was designed for basic science and clinical faculty, additional participants have included a few medical students, medical education staff, administration, and hospital employees. The vast majority of participants were faculty members. The workshop has been presented locally, nationally, and internationally (International Association of Medical Science Educators).

Workshop Quality
The total number of respondents for the workshop quality survey was 33 (35% response rate). Descriptive statistics for Likert-style items can be seen in Table 1. Overall, the workshop was rated highly across all evaluation items. All participants felt that the content was pertinent to the development of health professions educators (100% agreement or strong agreement). The vast majority (94%) agreed or strongly agreed that the experience was conducive to their learning and it advanced their understanding of iGen in health professions education. Notably, all respondents agreed or strongly agreed that the handouts were of high quality and relevance. The majority of the narrative comments indicated that the workshop was enjoyable and informative. Few minor constructive comments included a request for the facilitators to introduce themselves more thoroughly and to include their experience with iGen students. A second constructive comment provided after the first offering of the workshop requested the addition of a clinical educational case to the workshop. The final case (in Appendix E) was modified to describe a clinical learning environment and was used for subsequent offerings of the workshop. After this minor modification, no additional comments were received about case diversity.

Longitudinal Impact
The total number of respondents for the longitudinal impact survey was 28 (30% participation rate). Descriptive statistics for

Table 1. Faculty Responses for the Workshop Quality Survey

| Item                                                                 | N  | Agree or Strongly Agree (%) | Neutral (%) | Disagree or Strongly Disagree (%) |
|----------------------------------------------------------------------|----|-----------------------------|------------|---------------------------------|
| 1. The workshop aligned with description and met objectives.         | 33 | 97                          | 3          |                                 |
| 2. The content was pertinent to health professions educator development. | 33 | 100                         |            |                                 |
| 3. The content advanced participant understanding of the topic.      | 17*| 94                          | 6          |                                 |
| 4. The workshop was presented clearly and facilitated in a manner conducive to my learning. | 33 | 94                          | 6          |                                 |
| 5. The facilitators were knowledgeable.                             | 33 | 97                          | 3          |                                 |
| 6. Handout materials were relevant and written clearly.              | 21*| 100                         |            |                                 |

*This item did not appear on all evaluations.
the quantitative items and mapping of educational objectives to survey items can be seen in Table 2. A large majority of participants (79%) agreed or strongly agreed that, in comparison to their abilities before the workshop, they were better able to recognize generational characteristics and compare literature-based iGen characteristics with other generations, as well as their own generational traits. The majority of participants (58%) reported having adjusted their instructional strategies to align with iGen learners, though within this group, 73% were indifferent (neutral) to whether the new strategies were appealing to their learners. The large majority (78%) discussed potential curricular adaptations for iGen with someone at their home institution. The vast majority of the narrative comments indicated that participation in the workshop was a positive and memorable learning experience. Participants regarded the most important lessons learned to be iGen’s shaping childhood experiences, iGen characteristics, and the diverse practical classroom strategies offered by facilitators and participants. Suggestions for improvement included the addition of more case studies and more workshop participation from the oldest generation of health professions educators. One respondent expressed concern that attitudes regarding generational differences were biased.

Discussion

As iGen members continue to make up large portions of health professions education programs, it is imperative for educators to explore this generation’s unique attributes and begin to reflect on necessary adjustments to currently utilized pedagogies. This workshop was designed to engage health professions educators in gaining a better understanding of their current students’ characteristics and unique needs, as well as to provide a reflective environment in which to identify manageable educational adjustments, and develop strategies for sharing the workshop information and ideas with their home institution and colleagues. We have successfully used this workshop in several settings with participants from multiple health sciences education disciplines, including student audience members. We have found the workshop to routinely spur lively and invested discussion from audience members regarding their own experiences with the new iGen student population. Throughout each workshop session, we found that due to the nonthreatening environment offered through the individual reflection activities and small-group discussions, experienced challenges were shared and openly discussed. Importantly, we have built in resources to provide to all audience members (see Appendix F), as well as thought-provoking questions intended to keep the generational conversation going as audience members return to their home departments and institutions.

Overall, the quality of the workshop was rated highly by the large majority of participants. The topic was deemed pertinent to health professions educators and both the presentation and materials were described as clear and conducive to learning. The session had a lasting impact on participants and was memorable over a half year later as evidenced by the fact that 30% of participants deemed it important to respond to the longitudinal survey and the majority agreed they were able to meet the educational objectives.

Considerations for Facilitators

Depending on the expected audience, we altered our case studies to be most applicable to participants (e.g., preclinical vs. clinical educational scenarios). These could easily be manipulated to best suit future audiences. The presentation and case study activities could also be modified to present to both faculty and students together. Although we have had several student audience members, they have only made up

| Item                                                                 | Objective                                                                 | N     | Agree or Strongly Agree (%) | Neutral (%) | Disagree or Strongly Disagree (%) |
|----------------------------------------------------------------------|---------------------------------------------------------------------------|-------|----------------------------|-------------|----------------------------------|
| 1. I am better able to recognize personal as well as generational characteristics. | 1                                           | 28    | 82                         | 18          |                                  |
| 2. I am better able to compare and contrast literature-based iGen characteristics with other generations. | 2                                           | 28    | 79                         | 14          | 7                                |
| 3. I am better able to compare and contrast my own generational traits with iGen traits. | 3                                           | 27*   | 89                         | 4           | 7                                |
| 4. I have adjusted my instructional approach to align more with iGen students. | 4                                           | 26*   | 58                         | 35          | 8                                |
| 5. My modified instructional style is appealing to my learners. | 4                                           | 15    | 27                         | 73          |                                  |
| 6. I have had at least one conversation with someone at my home institution regarding a potential curricular adaptation that addresses iGen behaviors. | 5                                           | 27*   | 78                         | 22          |                                  |

*Some participants did not respond to this item.
*Question displayed only to respondents who answered agree or strongly agree to item 4.
a small percentage of our workshop attendees. The students have been able to offer a unique perspective which was valuable for all audience members to hear. But, facilitators must also be cognizant of preventing a venting session on all of the challenges presented by iGen’s characteristics, rather than focusing instead on the differences as solely unique attributes that need to be better understood. This is imperatively important if students are participating in the workshop. This workshop could also lend itself to modification in the graduate medical education world, as medical residencies will soon be made up of large percentages of iGen members.

The fabric of our presentation allowed for a rich discussion among educators present at the workshop. Frequent topics of participant questions and discussion included how to reconcile the presented iGen characteristic information with the volume of information and expectations that typically come with health professions education. Specific experiential examples often were brought up by participants, which allowed the facilitators the opportunity to encourage audience members to examine the situations through the lens of an iGen member. A key lesson learned was the importance of reminding participants that as health professions educators we cannot change the volume of critical content and skills that we should expect our students to master nor the clinical work environments that our students will enter after they leave our classrooms. Throughout the workshop discussions, we focused on the fact that we can change our expectations and appreciation of how easy (or very difficult) it may be for our current students to master these skills and content. Another important lesson learned was to continue to describe the generational characteristics and attributes as neither positive nor negative, but instead as facts that need to be considered when using existing education content and methods as well as when developing future modalities.

Limitations

A limitation of this workshop was the sparsity of evidence-based educational modalities proven to be successful with iGen members. We are successfully able to educate on the unique attributes of iGen, and how these learning styles are specifically emerging in the health sciences classroom arena. But, we are not yet able to present solid evidence on strategies that are proven successful with health professional iGen students as they have only recently entered into health professions classrooms. Indeed, the majority of our own workshop participants were able to adjust their instructional approach to align more with iGen students; however, they were unsure whether these changes were appealing to their learners. Despite the reported adjustments to teaching by numerous participants, 35% responded neutral. This finding further speaks to the need for evidence-based iGen teaching strategies that can be successfully implemented.

Nevertheless, by openly discussing research-based iGen characteristics and reflecting on our own generational differences, we can start the conversation of, how do we, as educators, meet these students where they are while still accomplishing our health science curricular goals. We strongly feel that the more medical educators gain a better understanding of their iGen students’ characteristics, the more evidence-based studies will develop and lead to data-backed educational strategies ready for widespread implementation.

Future Directions

Discussions at the workshop about how our health professions curricula and teaching behaviors can be more strategically adapted will inevitably identify educational strategies that can be tested through research. The majority of survey respondents indicated that they had conversations with a colleague at their institution about curricular adaptations and that they had adjusted their instructional approach; however, they were uncertain of how the new approaches were received by students. This workshop served as a first and necessary step for empirical medical education research on the iGen population. Gaining a better understanding of collectively who our iGen students are as well as how they best learn is necessary in today’s medical education landscape.

Appendices

A. PowerPoint Presentation.pptx
B. Facilitators Guide.pdf
C. Generational Self-Assessment (Activity 1).pdf
D. iGen Self-Assessment (Activity 2).docx
E. Case Study (Activity 3).docx
F. Strategies and Literature Cited.docx
G. Workshop Evaluation Surveys.docx

All appendices are peer reviewed as integral parts of the Original Publication.

Stefanie M. Attardi, PhD: Assistant Professor, Department of Foundational Medical Studies, Oakland University William Beaumont School of Medicine; ORCID: https://orcid.org/0000-0003-3291-490X
Tracey A.H. Taylor, PhD: Associate Professor and Assistant Dean for Preclinical Medical Education, Department of Foundational Medical Studies, Oakland University William Beaumont School of Medicine; ORCID: https://orcid.org/0000-0002-4739-7127

Sarah Lerchenfeldt, PharmD: Assistant Professor, Department of Foundational Medical Studies, Oakland University William Beaumont School of Medicine; ORCID: https://orcid.org/0000-0002-1383-4456

Rebecca L. Pratt, PhD: Professor, Department of Foundational Medical Studies, Oakland University William Beaumont School of Medicine; ORCID: https://orcid.org/0000-0002-6138-2562

Kara E. Sawarynski, PhD: Associate Professor and Vice Chair, Department of Foundational Medical Studies, Oakland University William Beaumont School of Medicine; ORCID: https://orcid.org/0000-0003-3008-0884

Acknowledgments
The authors wish to acknowledge the Center for Excellence in Medical Education Research for their support. They also thank the workshop participants for evaluating the session. The authors would also like to thank the Oakland University William Beaumont School of Medicine Office of Student Affairs for their inspiration to examine this generational topic.

Disclosures
None to report.

Funding/Support
None to report.

Prior Presentations
Attardi S, Lerchenfeldt S, Pratt R, Sawarynski KE, Taylor T. Translator please!: Adjusting to the new iGeneration of OUWB matriculates. Presented at: 8th Annual William Davidson Medical Education Week; May 2019; Royal Oak, MI.

Attardi S, Lerchenfeldt S, Pratt R, Sawarynski KE, Taylor T. Translator please!: Adapt your teaching for radically different and newly matriculated iGen students. Presented at: 2019 International Association of Medical Science Educators 23rd Annual Meeting; June 2019; Roanoke, VA.

Attardi S, Sawarynski K, Lerchenfeldt S, Pratt R, Taylor T. Translator please!: Adapt your teaching for radically different and newly matriculated iGen students. Presented at: Rowan University School of Osteopathic Medicine; September 2019; Stratford, NJ.

Ethical Approval
Reported as not applicable.

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Received: May 29, 2020
Accepted: October 19, 2020
Published: February 1, 2021