

# Understanding Generational Perspectives to Improve Student Engagement in the Classroom

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## Abstract

**Introduction:** The ability to engage and capture the complete attention of first and second year medical students throughout a complete lecture may be a myth of the past. Unlike the generations before them, Millennial medical students have been described as multi-taskers, technology gurus, and social media buffs. These qualities often manifest themselves as student disengagement in the classroom. The purpose of this study was to determine whether generational differences exist in the perceived effectiveness of various instructional strategies in improving student engagement in the classroom.

**Methods:** Complimentary, web-based surveys were distributed to first and second year medical students and biomedical science faculty at Oakland University William Beaumont School of Medicine, as well as pre-medical students at Oakland University.

**Results:** Responses were obtained from 80 medical students (46%), 17 faculty members (50%) and 50 pre-medical students (6%). Out of 147 respondents, 73.4% were Millennials, 12.9% were Z's, 7.5% were X'ers, and 6.1% were Baby Boomers. Significant differences were found in the perceived effectiveness of select instructional strategies between generations.

**Conclusion:** Identifying where generational perceptions of instructional strategy effectiveness intersect may allow educators to identify, enhance and invest in those strategies that have the greatest potential for success in the classroom.

**Keywords:** Undergraduate and elearning/computers

## Article

### Introduction

The ability to engage and capture the complete attention of first and second year medical students throughout a complete lecture may be a myth of the past. Unlike the generations before them, Millennial medical students are multi-taskers, technology gurus, and social media buffs (Hayes, 2009). These qualities often manifest themselves as disengagement in the classroom. Students frequently shift their attention between searching for supplemental educational information on the web and engaging in non-content related e-mail and social networking during classroom sessions. In fact, the Millennial

generation has been reported to shift their attention between electronic devices up to 27 times per hour (Frank et al., 2013).

To improve student attentiveness and create a dynamic learning environment, medical educators have implemented instructional strategies, such as audience response, Think-Pair-Share, and the flipped-classroom (Boateng, 2010). To-date, little evidence exists regarding perceptions towards how engaging these forms of instruction are in learning classroom content. Given that generational gaps exist between students and their professors, it is important to determine how differences in perceptions may drive utilization of these teaching strategies. The purpose of this study was to determine whether generational differences exist in the perceived effectiveness of various instructional strategies in improving student engagement in the classroom.

## Methodology

Complimentary, web-based surveys were distributed to first and second year medical students and biomedical science faculty members at Oakland University William Beaumont School of Medicine (OUWB), as well as undergraduate pre-medical students at Oakland University in March 2014. OUWB is a new medical school located in Rochester, MI, that is dedicated to student-centeredness and optimizing learning experiences. Surveys were comprised of six questions aimed to assess the effectiveness of various instructional strategies in improving student engagement in the classroom. Survey questions can be viewed in Table 1. Third and fourth year medical students and clinical faculty were not surveyed due to anticipated low response rates from these groups.

Descriptive statistics were used to assess differences in survey responses by generation. Generation was defined using respondents' ages, rather than through self-identification: "Z" 11-20, Millennial 21-32, X 33-53, Baby Boomer 54-71, and Silent 72-90 years of age. Statistical analyses were conducted using STATA 11.2 (College Station, TX).

## Results

Responses were obtained from 80 medical students (46%), 17 faculty members (50%) and 50 undergraduate pre-medical students (6%). Out of the 147 respondents, 73.4% were Millennials, 12.9% were Z's, 7.5% were X'ers, and 6.1% were Baby Boomers. Survey results can be viewed in Table 1.

## Discussion

We found that generational differences exist in the perceived effectiveness of instructional strategies to improve student engagement in the classroom. Most notably, flipped classrooms were ranked lowest for engagement among Millennials and highest amongst Baby Boomers. Situational or case-based learning was considered to be the most engaging instructional strategy across generations. X'ers suggested alternative forms of assessment including quizzing, debating amongst students, and teaching what was learned to others. Significant differences were found in the perception of what percentage of time students pay attention in class. The majority of Baby Boomers believed that medical students paid attention in class 0-20% of the time, while Z's, Millennials and X'ers consider their attentiveness to be much higher. All generations were in agreement that classroom sessions are more engaging when professors use more than one teaching strategy.

The value of studying generational differences in the way we prefer to learn is that learning sessions can be constructed in a manner that makes them most engaging to medical student audiences. This is especially important in the pre-clinical years when students log hundreds of hours of class time and are often easily distracted by social media and the like. Such instances of disengagement are not beneficial for the student learner or teacher, and can result in lost opportunities for learning in curriculums that are increasingly pressed for face-to-face time.

Millennials currently represent the largest proportion of students in medical schools; hence why three-quarters of our sample was from this generation. Millennials have been described as overscheduled, technologically sophisticated, goal seeking, ethnically diverse, multi-tasking, and overprotected (Haynes, 2009). This generation prefers teamwork, structure, choices, praise, free time, and instant gratification in the educational setting (Monaco & Martin M, 2007). In addition to these attributes, our results indicate that Millennials prefer the use of audience response systems, multiple teaching methods (e.g. Power Point and white board), videos and clinical cases to keep them engaged during learning sessions. With the majority of Baby Boomers believing that medical students pay attention in class 0-20% of the time (although Millennials report higher attentiveness), course directors should consider implementing these instructional strategies throughout their learning sessions. Additional Millennial teaching strategies may include encouraging discussion, practice and teaching others, putting a patient “face” to content, and using unique visual images and real-life scenarios to reinforce concepts (4).

Generational awareness extends beyond teachers designing engaging learning sessions for students. Medical students should also appreciate generational tendencies and norms to better understand the intention of their instructors. The results of this survey were shared with medical students and faculty members (individuals spanning all generations) during a joint workshop at OUWB. Providing students and faculty members with the opportunity to understand the generational differences between them is believed to have helped improve engagement in the classroom and build community at OUWB. Opportunities like this are extremely important given that new generations are more frequent and defined by shorter timespans compared to older generations. The first medical students from generation “Z” will be entering classrooms within the next couple of years and we must be prepared for these learners who prefer online learning, are over-dependent on technology and who have been described as individuals with “acquired attention deficit disorder” (Fudin, 2012).

It is important to note that our small sample size and the fact that we only obtained data from a single medical school limit the generalizability of our results. As a result, our findings may be more applicable to one of the many new medical schools that also aim to create innovative and engaging classroom learning environments. Future investigations on this topic should emphasize a large sample size, the inclusion of multiple medical schools, and a more comprehensive set of survey questions.

Overall, identifying where generational perceptions of instructional strategy effectiveness intersect may allow educators to identify, enhance and invest in those strategies that have the greatest potential for success in the classroom.

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## Declaration of Interest

The authors of this short communication do not have any conflicts of interest to report.

**Table 1 – Survey Results**

<b>Q1: How Engaging are Instructional Strategies in Learning Class Content?</b>					
1=Least Effective, 10 Most Effective. Average Rank Reported.					
	Z (11-20 years)	Millennial (21-32 years)	X (33-53 years)	Baby Boomer (54-71 years)	Test Statistic, P-Value
Audience Response System	6.07	5.31	4	5.78	F=1.7, P=0.17
Case-based/Situational Learning	8.11	7.54	8.1	8.89	F=1.7, P=0.17
Flipped Classroom	5.81	4.97	6.45	7.5	F=3.5, P=0.02
In-Class Q&A	6.89	6.12	6.45	7.44	F=1.7, P=0.17
Small Group Discussions	6.21	6.36	6.27	7	F=0.22, P=0.9
Team-based Learning	6.07	6.16	7.45	6.67	F=1.1, P=0.4
Think-Pair-Share	4.5	5.31	5.09	5.71	F=0.5, P=0.7
White/Chalk Board	5.79	6.05	5.09	5.33	F=0.6, P=0.60
Power Point	7.05	6.36	6	4.89	F=1.8, P=0.15
Videos	6.89	7	6.45	6.44	F=0.4, P=0.75
<b>Q2: What is the best way to assess student understanding in the classroom?</b>					
Ask for a show of hands	36.8%	18.5%	18.2%	0%	X <sup>2</sup> =27, P<0.01
Use the audience response system	31.6%	48.2%	18%	56%	
Call on individual students	15.8%	14.8%	18%	22%	
Ask for students to collectively shout out an answer	10.5%	12%	0%	0%	
Other	5.3%	6.4%	45.4%	22%	
<b>Q3: Class is more engaging when professors uses more than one way to present information:</b>					
Strongly Agree & Agree	84.2%	69.2%	80%	88.9%	X <sup>2</sup> =11.9, P=0.69
<b>Q4: More technology should be used in the classroom:</b>					
Strongly Agree & Agree	21.1%	30.8%	50.0%	44%	X <sup>2</sup> =19.3, P=0.2
<b>Q5: What percentages of time do students pay attention in class?</b>					
0-20%	0%	12.3%	20.0%	56%	X <sup>2</sup> =25.1, P=0.01
21-40%	26.3%	18.9%	20%	33%	
41-60%	31.6%	28.3%	0%	0%	
61-80%	26.3%	27.4%	50.0%	11%	
<b>Q6: The majority of classes are engaging and effective</b>					
Strongly Agree & Agree	31.6%	26.2%	9.1%	37.5%	X <sup>2</sup> =16.1, P=0.37

