



# A Comparison of Favored Learning Modalities

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## BACKGROUND

Interprofessional and interdisciplinary communication and the ability to work in a healthcare team is increasingly required of all trainees and practicing physicians. As a result, we must develop new methods to teach learners the necessary communication skills to optimally care for patients.

One great tool that IU has implemented is interdisciplinary education events, specifically including simulation events into the training curricula. Simulation is a useful teaching modality for interprofessional and interdisciplinary education, as it helps ensure trainees are not solely educated by the physicians in their field of medicine exclusively. Benefits include approaching problems with a different lens, practicing communication in a low stress, non-clinical environment, and learning how other disciplines learn and progress in their training.

Since verbal feedback regarding these interdisciplinary simulations was overwhelmingly positive, we wondered how the two groups felt about different learning modalities and how they each learn best. We also sought to uncover how each group preferred to learn and where they ranked simulation as a learning modality.

Our goal was to highlight the positives of interdisciplinary education as perceived by our trainees in pediatric anesthesia and otolaryngology, hopefully inspiring others to consider adding these interdisciplinary simulation events to their own curricula.

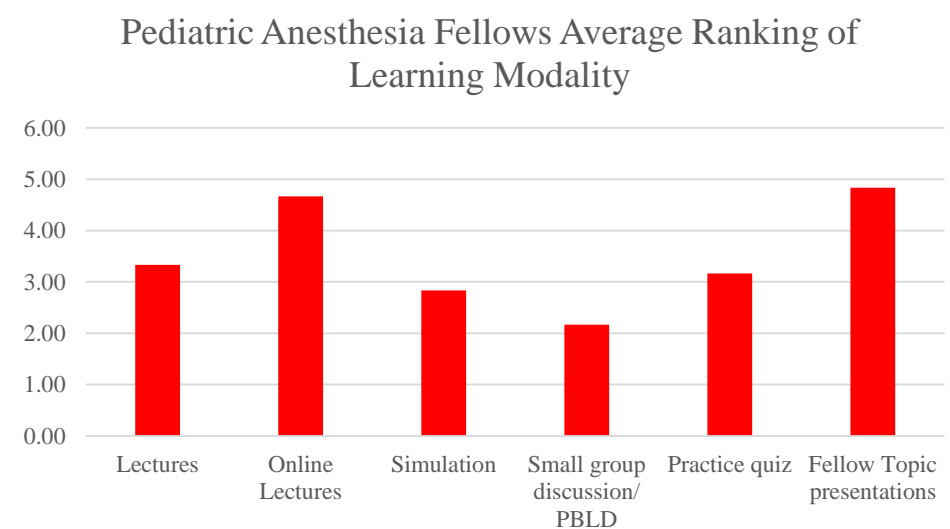
## MATERIALS and METHODS

From 2017-19, pediatric anesthesia fellows at IU have participated in interdisciplinary simulations with otolaryngology residents. We surveyed all pediatric anesthesia fellows and otolaryngology PGY2 and above residents that participated in these simulation events using Survey Monkey. All data collected was anonymous. This study was IRB exempt.

## RANKING BY PEDIATRIC ANESTHESIA FELLOWS

Anesthesia Fellows Preferred Learning Methods Ranking 1-6						
Rank	1	2	3	4	5	6 Average Rank
Lectures	1	1	1	2	0	3.33
Online Lectures	0	1	0	0	4	4.67
Simulation	1	1	2	2	0	2.83
Small group discussion/ PBLD	2	2	1	1	0	2.17
Practice quiz	2	1	0	1	1	3.17
Fellow Topic presentations	0	0	2	0	1	4.83

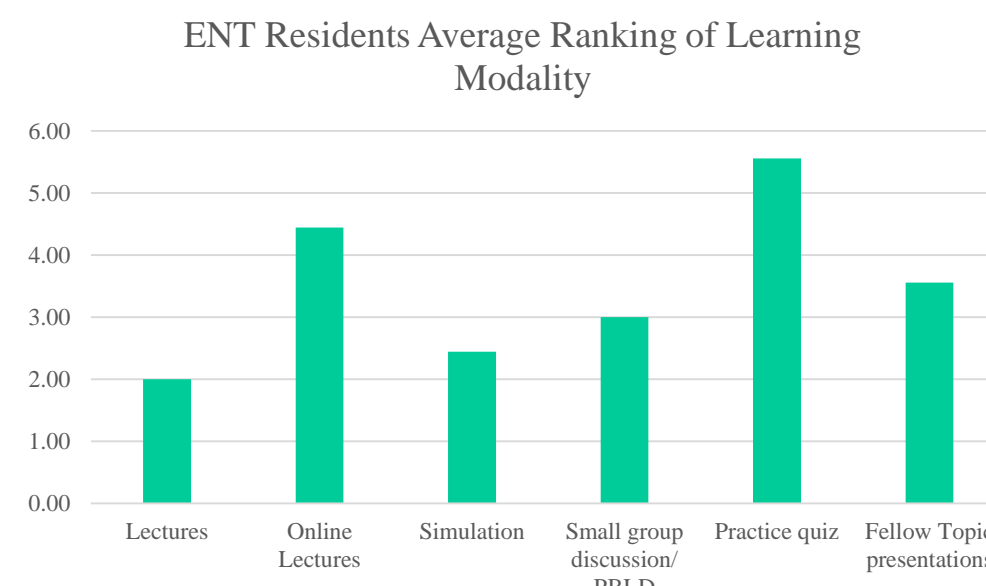
\*The number in each column below the rank is the number of times that each Learning Modality was ranked 1st, 2nd, 3rd, etc



## RANKING BY ENT RESIDENTS

ENT Residents Anesthesia Fellows Preferred Learning Methods Ranking 1-6						
Rank	1	2	3	4	5	6 Average Rank
Lectures	5	1	1	2	0	2.00
Online Lectures	0	2	1	1	1	4.44
Simulation	3	1	3	2	0	2.44
Small group discussion/ PBLD	1	2	3	2	1	3.00
Practice quiz	0	0	0	0	4	5.56
Fellow Topic presentations	0	3	1	2	3	3.56

\*The number in each column below the rank is the number of times that each Learning Modality was ranked 1st, 2nd, 3rd, etc



## PREFERRED CURRICULUM

Anesthesia	Preferred Percentage of Curriculum (%)
Lectures	22
Online lectures	8
Simulation	21
Small group	25
Practice quiz	15
Fellow presentation	9

ENT	Preferred Percentage of Curriculum (%)
Lectures	49
Online lectures	13
Simulation	16
Small group	15
Practice quiz	8
Fellow presentation	11

This question asked the participants how they would like their learning experience broken down. We accomplished this by asking participants to rank all 6 topics, totaling 100%, by what they would like the learning modality to contribute to the curriculum.

## RESULTS

- We had a 75% completion rate for all trainees in our survey, including 6/8 pediatric anesthesia fellows and 9/12 otolaryngology residents.
- 100% of ENT residents felt they learned some useful things from the anesthesia perspective from our simulations, whereas 83.3% of pediatric anesthesia fellows felt they learned useful knowledge from participating in our simulation events.
- Both groups of trainees scored simulation as a useful learning modality (75/100 for ENT residents and 72/100 for pediatric anesthesia fellows)
- 12/15 answered yes or maybe when asked if they wished they had more simulation in their current curricula.
- The participants were asked to rank their preferred learning modalities 1-6.
  - The fellow's top three choices were small group discussions/PBLD, simulation, and practice quizzes
  - The ENT residents preferred lectures, simulation and small group discussions/PBLD.
- Then they were asked to rank all 6 learning modalities by how much of a percentage they should contribute to the curricula with the largest difference being each group's preference for lectures.
  - The peds anes fellows wished for lectures to consume 22% of the curriculum, while the ENT residents wished for 49%.

## CONCLUSIONS

Looking at the data, specifically each group's top three preferences, we can see that there was not a large difference between the pediatric anesthesia fellows and the ENT residents. The two groups shared 2 of the top three preferences; however, when asked to rank what percentage of the curriculum each learning modality should take up, the two groups differed drastically. The fellows preferred a mixed bag curriculum, with their top 4 choices, by percentage, all within 10% of each other. From this we can conclude that they learn best in an environment where learning is coming from multiple different sources. The residents wanted 62% of their education to come from lectures, this is more than twice as much as the fellow's 30% preference. One reason for this massive difference between the two groups could be due to how much training and learning the ENT residents have compared to the fellows. The ENT residents may find that the best way to acquire the new information is through a structured lecture. Whereas the fellows, who have already completed residency, are now focused on refining their skills and prefer a more "well-rounded" approach to learning.

## LIMITATIONS and UTILITY

**Limitations:**  
This study was done exclusively amongst Indiana University ENT residents and pediatric anesthesia fellows and so this information may not be representative of different specialties amongst IU trainees or even trainees across the nation. Another factor worth considering is that residents and fellows are at two different stages in training and learning, this could be a reason for the differences between preferences, as one group is trying to learn skills while another is trying to master them.

**How we can use what we have learned:**  
**Surveys could be done at the beginning of each year or at a program start to allow medical educators to learn how their trainees prefer to learn. This would result in a more "tailored" education curricula for each class of trainees.**

References available upon request