The American Journal of Surgery 221 (2021) 254–255

Contents lists available at ScienceDirect

The American Journal of Surgery

journal homepage: www.americanjournalofsurgery.com

Invited Commentary

A commentary on teaching and learning styles as fueled by 'how learning preferences and teaching styles influence effectiveness of surgical educators'

Learning and teaching is rarely intuitive in the various environments that is surgery and surgical residency. It is a learned endeavor that had followed in the historical traditions of on the job training.[1] This study utilizes frameworks and surveys in the area of education to discern teaching and learning styles of faculty and residents in one general surgery residency program.[2] Attendings completed inventories on learning preferences, teaching style, and self-perceived teaching effectiveness. Residents completed this same teaching effectiveness instrument for each of their attendings. The most common attending learning preference was multimodal. The teaching style of 'big conference teacher' had lower scores by the residents for 'professional attitude towards surgical residents'. 'The one-off teacher' correlated to a higher overall teaching rating and learning climate scores. The 'official curriculum teacher' drew higher professional attitudes toward resident scores. The attending self-assessment findings reported were that attendings underestimated their teaching effectiveness compared to residents' perceptions of them in communication of goals, evaluation of residents and overall teaching performance.

The study was small, within one institution and the findings were utilizing education instruments and terminology that were mixed and matched and may not have completely captured the complex correlation between teaching and learning styles. That is not the point. The point is that teaching and learning must be approached as we do our medicine. How we teach must be researched, learned, assessed, and honed. The conclusion of the manuscript is that studies that identify teaching and learning styles, like this one, should be used to inform faculty development for clinical teaching. Faculty development. Clinical teaching. Surgical attendings utilizing learned information and feedback to evolve their teaching style in a more effective way. This is their attempt to find out what their attendings' preferred teaching and learning styles were and discern if it matched how their residents learn best.

Vaughn and Baker discerned teaching and learning styles of pediatric residents utilizing a different framework to discover if there were good pairings and how that affected resident learning. They found that by knowing individual learner styles that there were particular teaching styles that created a better dyad and a better fit.[3] Kissane et al. discovered that most of the surgical residents at their institution reported that 62% of the time they encountered attendings with an authoritative leadership style. Only 9% of their residents preferred this of their teachers. 40% of interns preferred a consultative style while 50% of their mid-level residents preferred their leaders to have an explanatory style.[4]

These examples, regardless of framework or language utilized, characterized teaching styles and learner preferences. They all found that there were some teaching styles that matched desiredresidneentent learning styles. Authoritative or large lecture type teaching is rarely acceptable or optimal for residents that are mostly collaborative and inquisitive. Learners today appreciate inclusion, discussion, and collaboration. Teachers that talk to, follow a hierarchy, or are authoritative rarely find common ground with the learner. Learning how to teach is important for those that have teaching as a primary function in their clinical practice while caring for patients. This is not new, but it takes studies such as this one to point us back in the direction of paying attention to how to effectively teach.

Guidelines for effective medical teaching are based on years of faculty development programs. Drs. Skeff and Stratos published a guide based on their clinical teaching institute.[1] Their guiding perspective for medical teachers includes: 1) Mastery of the teaching craft is enabled by both experience itself and knowledge gained through that experience. 2) Expertise in teaching occurs at the intersection of the knowledge of pedagogy and the knowledge of the content being taught. 3) Master teachers use reflection for ongoing improvement. 4) Teaching can be guided by both science and artistry. 5) Teaching effectiveness benefits from versatility.

I am appreciative of the authors of this study alluding to the 'X-factor' in effective surgical teachers. Might the X-factor be found in those that adhere to these guiding principles and hone their teaching skills iteratively with practice … like surgical skills?

References

1. Skeff K, Stratos G. *Methods for Teaching Medicine*. first ed. American College of

https://doi.org/10.1016/j.amjsurg.2020.09.024

Physicians; 2010.
2. Dickenson KJ, Bass BL, Graiss EA, Nguyen DT, Pei KY. How learning preferences and teaching styles influence effectiveness of surgical educators. Am J Surg. 2021;221(2):256-260.
3. Vaughn LM, Baker RC. Do different pairings of teaching styles and learning styles make a difference? Preceptor and resident perceptions. *Teach Learn Med*. 2008 Jul-Sep;20(3):239–247.
4. Kissane-Lee NA, Yule S, Pozner CN, Smink DS. Attending surgeons' leadership style in the operating room: comparing junior residents' experiences and preferences. *J Surg Educ*. 2016 Jan-Feb;73(1):40–44.

The American Journal of Surgery 221 (2021) 254–255

James N. Lau, MD MHPE FACS
Loyola University Chicago Medical Center, USA
E-mail address: james.lau@lumc.edu.

18 September 2020