



Editorial

Striking a Balance: The Role of Virtual Learning in Ophthalmic Education

Avni P. Finn, MD, MBA¹ Janice C. Law, MD¹ Paul Sternberg Jr., MD¹ Shriji N. Patel, MD, MBA¹

¹ Department of Ophthalmology, Vanderbilt University Medical Center, Nashville, Tennessee

J Acad Ophthalmol 2023;15:e73–e74.

The coronavirus disease 2019 (COVID-19) pandemic led to an abrupt transition to nearly exclusive virtual learning modalities, bringing about a revolution in ophthalmic education.^{1–3} Born out of a necessity to maintain a high standard of education in the midst of the need for social distancing to reduce viral transmission, virtual learning systems have changed the way we teach the next generation of ophthalmologists. As we continue to face COVID-19-related barriers to delivering training in conventional manners, virtual learning has etched a place to stay in our training paradigms. Though distance learning has identified some exciting new educational opportunities, challenges remain integrating traditional teaching practices so as not to lose the nuanced value of personal interactions for young trainees.

A global survey of teaching practices before and during the pandemic revealed a statistically significant decrease in the use of traditional teaching modalities such as lectures, grand rounds, journal clubs and videos, and a concurrent increase in all e-learning alternatives during the pandemic.⁴ In the majority of academic institutions, lectures were rapidly converted from in-person to online platforms across the country to maintain a rapid pace of learning.⁵ For example, New York-area residency programs shared more than 45 lectures, many of which were attended by residents across programs.⁶ This posed several advantages including building an enduring library of virtual resources; effortless access to guest speakers across the country and globe; and at times, the convenience to listen to or “attend” lectures on one’s own schedule or pace. These types of multi-institution case conferences are an example of the wonderful innovation that would not have been conceived or readily conducted pre-pandemic. Similarly, access to international conferences for ophthalmologists and trainees has increased, and the cost to attend has decreased dramatically given the lack of a need to travel. All of these changes have translated to increased educational opportunities within our field. The

pandemic gave birth to a multitude of virtual resources for trainees—webinars, podcasts, and videos. A recent report listed 18 podcasts worldwide available for retina specialists as of December 1, 2021.⁷ Additionally, the American Society of Retinal Specialists, the Vit-Buckle Society, the American Glaucoma Society, the American Society of Cataract and Refractive Surgery, the American Society of Ophthalmic Plastic and Reconstructive Surgery, the North American Neuro-Ophthalmology Society, and the American Association for Pediatric Ophthalmology all now offer a multitude of regular new subspecialty webinars, many aimed specifically at trainees or young ophthalmologists.

Despite these merits, virtual learning presents several inescapable disadvantages. Those of us trained before the pandemic will remember lively interactive surgical case conferences filled with debate from various attendings or a journal club shared over coffee or dinner. The shift to an online format undoubtedly restricts our ability to connect with each other, decreases opportunities for in-person collaboration, and limits meaningful professional networking with colleagues. Additionally, maintaining and assessing learner engagement and keeping an environment free of distractions is challenging in a virtual setting. In those participants surveyed regarding virtual learning during the pandemic, just more than half (57.9%) were “very” or “extremely” satisfied with the alternate e-learning modalities of education.⁴ Unfortunately, too often participants turn their camera off during conferences or engage in other activities (like e-mail or texting) concurrent with the conference. This underscores the need to continue in-person face-to-face didactics. The American Board of Ophthalmology data suggest the potential deleterious effects of virtual learning. Despite the reduction in surgical volumes potentially increasing time for reading and studying, the overall pass rate for the ophthalmology written boards decreased by ~10% from 2019 to 2020–2021, suggesting a negative impact

Address for correspondence
Avni P. Finn, MD, MBA,
Department of Ophthalmology,
Vanderbilt University Medical
Center, 2311 Pierce Avenue,
Nashville, TN 37232
(e-mail: avni.finn@vmc.org).

DOI <https://doi.org/10.1055/s-0043-1764462>.
ISSN 2475-4757.

© 2023. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial-License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

Thieme Medical Publishers, Inc., 333 Seventh Avenue, 18th Floor, New York, NY 10001, USA

of e-learning on the fund of knowledge of ophthalmology trainees. More difficult to qualify is the loss of networking and personal connections made within training classes since the onset of the pandemic. Ophthalmology residency and fellowship training programs (and the subspecialty fields themselves) are small: forming deep connections with other trainees and faculty during training is of immeasurable importance.

So, how do we move forward to bridge these teaching paradigms to provide the highest level of education to our trainees? Adopting a structured hybrid model will allow the exciting advantages of e-learning to complement in-person didactics. By doing so thoughtfully, we can harness the accessibility of educational opportunities offered by virtual learning platforms without losing the in-person advantages of more traditional methods. Flipped classrooms are one such example of this hybrid methodology using personal time to absorb traditional didactic lectures and focusing in-person meetings on interactive higher order learning. The Vit-Buckle Society is already employing this methodology with new fellows. With the multitude of new distance learning tools including podcasts, webinars, and cross-institutional lectures, seminars, and case conferences webinars, students not only may learn using modalities that best appeal to them and do so at a pace and on a schedule which best suits them but also have access to a wider array of topics and specialists well beyond the geographic limitations of their own institution. A hybrid model also should incentivize instructors to focus on making the in-person events meaningful in quality and high in interactive knowledge transfer by concentrating on well-prepared content and insisting on increased faculty attendance.

The COVID-19 pandemic raised uncharted challenges for educators in ophthalmology. We commend the rapid innovation in educational resources initiated during this time which allowed continuation of a robust curriculum for the next generation of ophthalmologists. Young surgeons now have a multitude of resources including videos, image banks, online virtual lectures, webinars, and podcasts to supplement their learning, and we anticipate a continued surge in additional valuable content. These resources should be readily incorporated into training beyond the COVID-19 pandemic. However, we caution the reliance focused on virtual learning as there is no substitute for the interpersonal

connections, collaboration, and hands-on skills nurtured through in-person learning; these impactful relationships and often nuanced teachings are what surgical trainees will carry with them for a lifetime. In our own fellowship program, we have found that continuing to hold some conferences in a virtual format allows us to gain access to more faculty that may be spread across multiple locations; however, we strive to balance this with in-person journal clubs, guest lectures, symposia, and case conferences. Despite the challenges, being an educator in the time of rapid innovation in learning is an opportunity and a privilege. We must highlight the need to continually evaluate and integrate new resources into the way we teach the next generation of eye surgeons.

Funding

A.P.F.: Genentech (consultant), Allergan (advisory board), Eyepoint (advisory board); J.C.L.: none; P.S.: none; S.P.: Alcon (grant support).

Conflict of Interest

None declared.

References

- 1 Almarzooq ZI, Lopes M, Kochar A. Virtual learning during the COVID-19 pandemic: a disruptive technology in graduate medical education. *J Am Coll Cardiol* 2020;75(20):2635–2638
- 2 He B, Tanya SM, Sharma S. Overcoming barriers in access to ophthalmic education with virtual learning. *Eye (Lond)* 2022;36(01):237–238
- 3 Chick RC, Clifton GT, Peace KM, et al. Using technology to maintain the education of residents during the COVID-19 pandemic. *J Surg Educ* 2020;77(04):729–732
- 4 Chatziralli I, Ventura CV, Touhami S, et al; International Retina Collaborative. Transforming ophthalmic education into virtual learning during COVID-19 pandemic: a global perspective. *Eye (Lond)* 2021;35(05):1459–1466
- 5 Wong TY, Bandello F. Academic ophthalmology during and after the COVID-19 pandemic. *Ophthalmology* 2020;127(08):e51–e52
- 6 Chen RWS, Abazari A, Dhar S, et al. Living with COVID-19: a perspective from New York area ophthalmology residency program directors at the epicenter of the pandemic. *Ophthalmology* 2020;127(08):e47–e48
- 7 Podcasts: A New Approach to Learning - Retina Today. Accessed August 15, 2022, at: <https://retinatoday.com/articles/2022-july-aug/podcasts-a-new-approach-to-learning?c4src=article:sidebar>