New-Age innovative pedagogy for virtual ophthalmic webinars with Green Mat technology - A unique communication tool for continuing medical education in e-ophthalmology during the COVID-19 pandemic

Dear Editor,

There is a spurt in the number of ophthalmology webinars during the pandemic period giving the participants the luxury to pick and choose the webinars that they wish to attend. On the flip side, there are many pedagogical and technical issues which need to be addressed, to increase the attentive interest of the participants. In this manuscript, we propose the usage of the novel green mat technology in ophthalmology webinars with minimal cost and high productivity.

The need for this innovative pedagogy

Webinars and online classes have become an integral part of our lives during the coronavirus disease 2019 (COVID-19) pandemic. But studies have shown mixed responses from the ophthalmic postgraduate residents in favor of webinars. The majority who opposed them cited pedagogical and technical issues. The major drawback is that of the offline effect created by the webinars on Zoom platform and/or Google meet, etc., even though it is done online. So, to be ahead of the future and walk in front more than walking along with it, we have incorporated the use of the green mat technology in the webinars with interactive software commonly used by YouTubers for live streaming.

Green mat technology

Green mat technology is commonly known as the chroma key. It is used widely in the movies and multimedia industry and is done by incorporating an image or video into the green background using computer graphics. During this pandemic, we brought this technology into ophthalmic virtual conferences along with Open Broadcaster Software (OBS), which has never been reported in ophthalmic literature before. Using the green mat technology in virtual conferences, provides the presenter with a ‘physical podium presentation’ feel and makes the slide presentations more interactive, from the audience’s point of view, increasing their interest factor in it. For doing this, we have placed the green mat behind the presenter and the keynote/PowderPoint presentation was portrayed in the space which the green mat occupied giving the impression that the presenter is actually in the slide while presenting. This helps the presenter to explain the slide presentation in an easy way, catching the attention of the participants and establishing eye contact with the audience directing them to the place where they have to focus on the slide. A blue color mat can also be used instead of a green color mat. A simple word of caution, though, is to make sure that the presenter is not wearing green/blue or any shades of green/blue (to avoid chroma spilling).

The presenter can present by seeing the presentation on the laptop; and OBS [Figs. 3 and 4] is used simultaneously in a separate display screen to merge the presenter with their slide in the space occupied by the green mat.

Advantage of this pedagogy

The main advantages of using the green mat technology are clarity, interactivity, and creativity. Visual explanations give a much better comprehension of a complicated topic [Figs. 5-7]. Additively, the presenter can customize and move anywhere inside the slide [Fig. 8] while presenting or can place the red box [Fig. 9] accordingly in the OBS to avoid hiding important data. Moreover, it can be easily accessed and practiced by all medical professionals.

Figure 1: Behind the scenes of a green mat presentation in real-time depicting the green screen which displays the slide presentation, which the speaker is presenting and the laptop containing the camera which relays the speaker’s figure into the presentation

Figure 2: (a-d) Image depicting the dynamic expression, and hand movements of the speaker while utilizing the green mat to point at the important aspects of the images or data within the slide presentation
Figure 3: (a) Open Broadcaster Software (OBS). (b) OBS toolbox

Figure 4: (a) Image depicting the slide screen seen in the OBS viewer after priming it up, where the presenter is confined inside the red box area and the VirtualCam is activated (red arrow). (b) Image depicting the same screen, but now seen in a Zoom meeting utilizing the green mat.

Figure 5: (a) Image showing a teaching video of gonioscopy to differentiate the iris process from peripheral anterior synechiae without the green mat technology on the Zoom platform. (b) Image of the same slide shown with green mat technology, where the presenter is inside the presentation guiding the viewers on where to focus.

Figure 6: (a) Image showing slide presentation of simultaneous comparative examination of the fundus images of OD and OS without the green mat technology on the Zoom platform. (b) Image showing the same slide in Zoom platform presented using green mat revealing the speaker, who is highlighting important dynamic aspects in the image such as the simultaneous zoomed examination.

ophthalmologists in a do-it-yourself manner as the green mat costs approximately Rs. 750/- only and is readily available.
Figure 7: (a) Presentation with green mat technology showing previous visual fields of the same patient depicting the progression of glaucoma. (b) Presentation with green mat technology with the slide highlighting how the visual field's soft copy can be attached to the Eye Drop Reminder app designed for glaucoma patients.

Figure 8: (a and b) Images showing dynamicity of the presenter within the presentation showing changes in presenter position preventing hiding of data.

Figure 9: (a-d) Images depicting the presenter, customizing his position inside the slide while presenting, by placing the red box in OBS accordingly to avoid hiding important data.

and the software for installation is free. There is also another simpler way of using this pedagogical technology without using OBS with the settings readily available in the newer version of Zoom.
There are no conflicts of interest.

Conflicts of interest
Nil.

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