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## Letter to the Editor

### Comment on: “Teaching in times of crisis: Virtual classroom AEC. Influence of COVID-19 on surgeons of the future”<sup>☆</sup>

### Comentario: «Docencia en tiempos de crisis: Aula Virtual AEC. Impacto de COVID-19 en los cirujanos del futuro»

To the Editor:

We have read with great interest the recently published article by Sánchez et al.,<sup>1</sup> “Teaching in times of crisis: AEC Virtual Classroom. Impact of COVID-19 on surgeons of the future”, in which the crisis generated by COVID-19 in the acquisition of surgical knowledge and skills is considered a consequence of the drop in surgical procedures and in-person activities. The authors also address how, through the ‘virtual classroom’, they have developed programs for the comprehensive training of future surgeons. Thus, we would like to make some additional comments on the importance of the virtual classroom in academic training in low- and middle-income countries, for instance Latin American countries like Colombia.

In Latin America, and more specifically in Colombia, there were already problems with the training of surgeons before the arrival of COVID-19, the main problem being the limited number of places to train in specialties. According to national reports from 2020, there was a deficit of 980 surgeons at that time.<sup>2</sup>

Additionally, based on a survey of active General Surgery residents in Bogotá, in 2006 the Colombian Association of Surgery already reported specific problems with the lack of or irregular form of academic meetings (difficult cases, medical journals, revisions of topic, magazine club), lack of established schedules for developing and updating knowledge, limited training in laparoscopy, reduced clinical rotations and, even more serious, a large percentage of residents did not comply with the adequate number of procedures to develop a minimum expected learning curve, not to mention the

difficulty they had in balancing their personal lives and family responsibilities inherent to residency.<sup>3</sup>

Due to the above, and with the arrival of COVID-19, the situation became increasingly alarming due to the decrease in surgical procedures, which complicated resident training, further limited the hours of clinical practice, and directly impacted the appropriate acquisition of theoretical and practical knowledge.<sup>4</sup>

Colombia was not prepared for the acquisition of knowledge through virtual classrooms, and there were few universities with such platforms. In recent years, studies have been carried out to evaluate learning modalities like the ‘flipped’ classroom, with significant findings. However, most of these studies were conducted among undergraduate students.<sup>5,6</sup>

We thank the authors for such evidence and believe that the AEC Virtual Classroom should be an international example for the development of theoretical and practical knowledge of future surgeons, and that these study methodologies should continue after the pandemic is over. Additionally, we praise the leadership of the Spanish Association of Surgeons for their efforts to create and organize these courses.

#### REFERENCES

1. Sánchez Santos R, Morales Conde S, Ramos Rodríguez JL. Teaching in times of crisis: Virtual Classroom AEC. Influence of COVID-19 on surgeons of the future. *Cir Esp.* 2021;99:479–81.
2. Restrepo D, Ortíz L. Aproximaciones a la estimación de la oferta y la demanda de médicos especialistas en Colombia,

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- 2015-2030. Obs Talent Hum en Salud. 2017;1-23. Available from: <https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/TH/Especialistas-md-oths.pdf>. [Accessed 7 September 2021]
3. Bermúdez PC, Monroy Melo A, Torregrosa AL, Henao Pérez F. Estado actual de la formación de residentes de cirugía general en Colombia. *Rev Colomb Cir.* 2006;21:225-39.
  4. Sánchez Ussa S, Ariza Gutiérrez A. Educación quirúrgica en Colombia en la era del COVID-19. *Rev Colomb Cir.* 2020;35:250-5.
  5. Domínguez-Torres LC, Vega-Peña NV, Pepín-Rubio JJ, Sierra-Barbosa DO, Lotero JD. Se hace camino al andar: Educación médica de pregrado en el Departamento de Cirugía. *Rev Colomb Cir.* 2021;36:25-34.
  6. Domínguez LC, Mora CM, Restrepo JA. «Aprendiendo a aprender?» en el Aula Invertida Extendida: una evaluación sobre los efectos de la enseñanza interactiva en el conocimiento y la regulación cognitiva de estudiantes de Medicina. *Rev Colomb Psiquiatr.* 2021;1-6. Available from: <https://doi.org/10.1016/j.rcp.2021.07.007>. [Accessed 7 September 2021]

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