

Medical Students' Perspective – Students' Perceptions and Attitudes After Exposure to Three Different Instructional Strategies in Applied Anatomy [Letter]

Daniel George ¹
Rosemary E Clarke ²

¹Imperial College London, Faculty of Medicine, London, UK; ²University College London, Faculty of Medicine, London, UK

Dear editor

It was a pleasure to read the study by Bin Abdulrahman et al¹ regarding anatomy teaching methods and whether anatomage, plastinated specimens or combining both methods were more effective in first year medical students. As medical students ourselves, we feel that utilising multiple resources may be beneficial, however the long-term improvement in anatomy understanding and consolidation is hard to determine.

The results of the study are ambiguous as to why students showed a higher attitude for combined teaching compared to anatomage or plastinated models alone. The authors only reported the results of 5 questions from the 15-question survey assessing student's attitudes to teaching methods. The unreported questions may shed more light on factors contributing to combined teaching receiving better feedback. The 3 questions that displayed significant differences between combined teaching versus single methods, are largely subjective and non-specific compared to the other 2 reported non-significant questions which involved tangible outcomes of anatomy learning. Additionally, a higher proportion of students felt that combined methods benefited learning outcomes, however there were no significant differences in the student's final grades. It is therefore difficult to ascertain why students perceived combined methods favourably.

Importantly, the objective structured practical examination (OSPE) was conducted straight after the practical teaching session, thereby only testing students' short-term memory. This suggests that the results of the study cannot be applied to long-term understanding and memory of anatomy, which is required for end of year assessments and clinical practice. Furthermore, if the OSPE was additionally performed prior to the teaching sessions, the improvement in test scores could have been quantified to assess the effectiveness of the teaching methods. Alongside fulfilling one of the aims of the study, this would also strengthen the argument to adopt novel methods such as anatomage² and plastinated specimens³ in medical school curriculums.

Additionally, the study states that the student groups were tested with the help of their assigned teaching method, with questions being demonstrated using either

Correspondence: Daniel George
Imperial College School of Medicine, Sir
Alexander Fleming Building, Imperial
College Road, London, SW7 2DD, UK
Tel +44 7481777676
Email daniel.george74@hotmail.co.uk

anatomage, plastinated specimens or both. The ten questions in the OSPE were standardised amongst the three groups, but there were key differences in how they were presented. Differences in the clarity and difficulty of the question's presentation would in turn impact the final grade scores and students' perceptions of the teaching method, which decreases reliability of the results.

To conclude, the value of combined anatomical teaching resources found in this study may be limited to superficial effects surrounding student's confidence and preference, as opposed to improving consolidated and tested anatomical knowledge. Furthermore, the quantity of resources may explain the preference as opposed to the specific usefulness of anatomage and plastinated models. Encouraging sole use of two largely non-practical anatomy resources, with no hands-on exposure, could hinder overall anatomy understanding and appreciation.^{3,4} Further research could expand on whether such combined methods quantitatively improve anatomical learning in the long-term or act as adjuncts to traditional textbooks⁵ and cadaveric dissections.⁴

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Bin Abdulrahman K, Jumaa M, Hanafy S, et al. Students' perceptions and attitudes after exposure to three different instructional strategies in applied anatomy. *Adv Med Educ Pract*. 2021;12:607–612. doi:10.2147/amep.s310147
2. Gross M, Masters C. Virtual dissection: using active learning with the anatomage table to enhance student learning. *FASEB J*. 2017;31(S1):lb9. doi:10.1096/fasebj.31.1_supplement.lb9
3. Fruhstorfer B, Palmer J, Brydges S, Abrahams P. The use of plastinated prosections for teaching anatomy-the view of medical students on the value of this learning resource. *Clin Anat*. 2011;24(2):246–252. doi:10.1002/ca.21107
4. Darras K, Spouge R, Hatala R, et al. Integrated virtual and cadaveric dissection laboratories enhance first year medical students' anatomy experience: a pilot study. *BMC Med Educ*. 2019;19(1):1–6. doi:10.1186/s12909-019-1806-5
5. Adamczyk C, Holzer M, Putz R, Fischer MR. Student learning preferences and the impact of a multimedia learning tool in the dissection course at the University of Munich. *Ann Anat*. 2009;191(4):339–348. doi:10.1016/j.aanat.2009.03.003. PMID: 19464859.

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Advances in Medical Education and Practice 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Advances in Medical Education and Practice editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

Advances in Medical Education and Practice

Dovepress

Publish your work in this journal

Advances in Medical Education and Practice is an international, peer-reviewed, open access journal that aims to present and publish research on Medical Education covering medical, dental, nursing and allied health care professional education. The journal covers undergraduate education, postgraduate training and continuing medical education

including emerging trends and innovative models linking education, research, and health care services. The manuscript management system is completely online and includes a very quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <http://www.dovepress.com/advances-in-medical-education-and-practice-journal>

<https://doi.org/10.2147/AMEP.S325762>