

Dissecting Anatomy teaching in MBChB: How multimodal teaching has improved student engagement

DR. ASHA VENKATESH, PROF. SIMON H PARSON

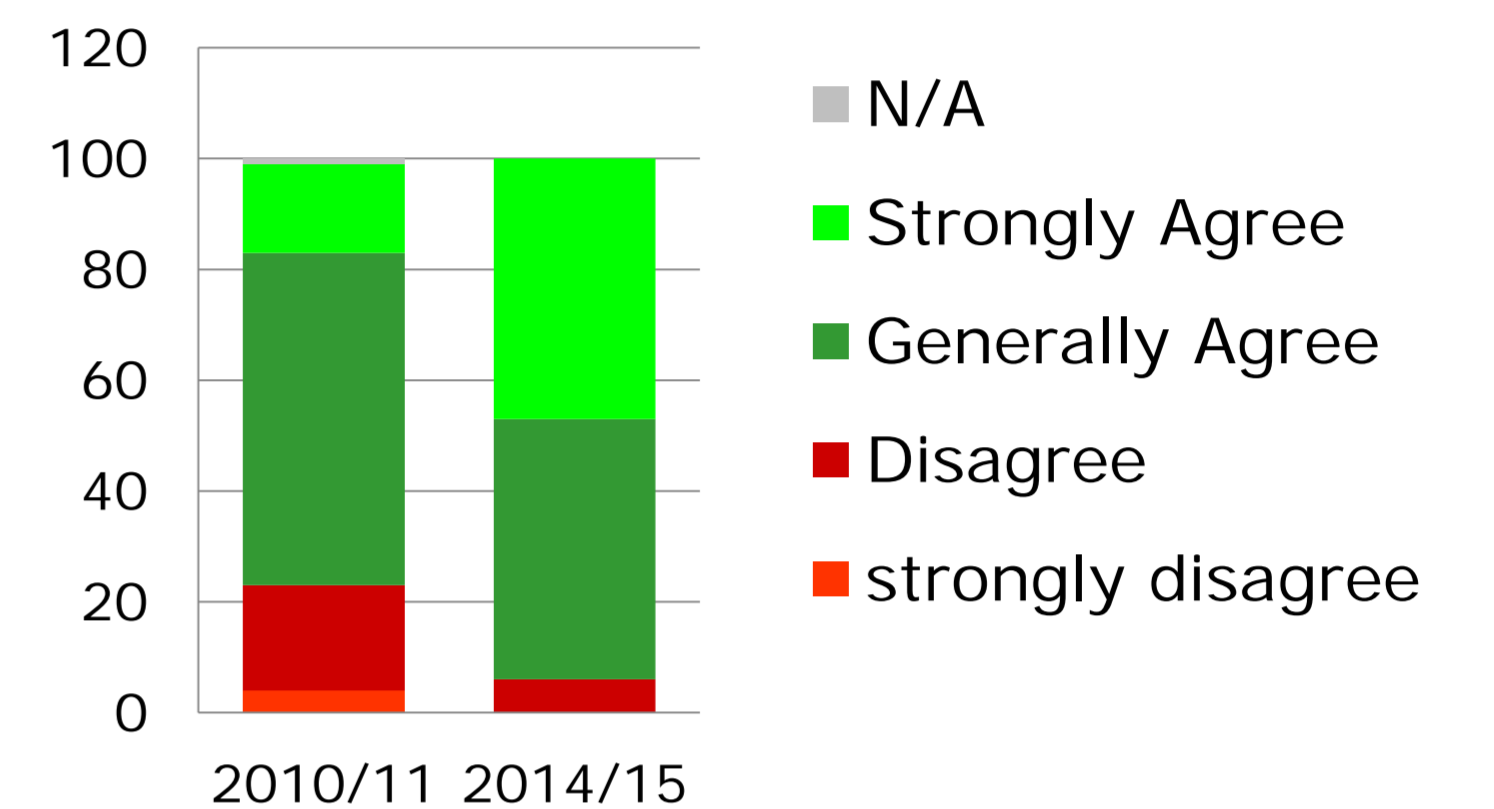
Institute of Education in Medical and Dental Sciences, School of Medicine, Medical Sciences and Nutrition, University of Aberdeen

- At the University of Aberdeen's Medical School, Practical Anatomy is taught mainly using a prosection-based approach in practical sessions as part of the Systems based course in Years 1, 2 and 3 MBChB.
- Our classes promoted adult learning principles, however the strong emphasis on self-direction, did not fully consider the need to help students to transition, into higher education learning strategies.
- This was reflected in Course Evaluation forms

As the majority of our students are school leavers, classes structured solely around self-direction clearly failed to motivate many learners.

From 2013 incorporation of additional modalities improved student interest and engagement in Anatomy, promoting students' transitions into and through Anatomy, (shown below) while prosection-based teaching remains centre-stage. These changes led to improved SCEF and exam attainment. (During the Academic Year 2014-15 of the 160 students in Year 2 MBChB, 2 failed, 109 achieved >80%; Academic Year 2011-12: 184 students-10 fails, 77 >80%).

SCEF responses to Question "Practical Anatomy sessions were good"



Prosection-based teaching:

Students are able to work at their own pace and concentrate on areas where they struggle, work in groups and discuss problems – Transition to adult learning ¹

1. Workbooks:

Questions in workbook promote adoption deeper learning strategies², encourages students to prepare for class beforehand

2. Near peer teaching

Promotes learning because of social and cognitive congruence ⁵



3. Pre-practical lectures and video demos:

Gives a grasp of "Threshold Concepts" ³



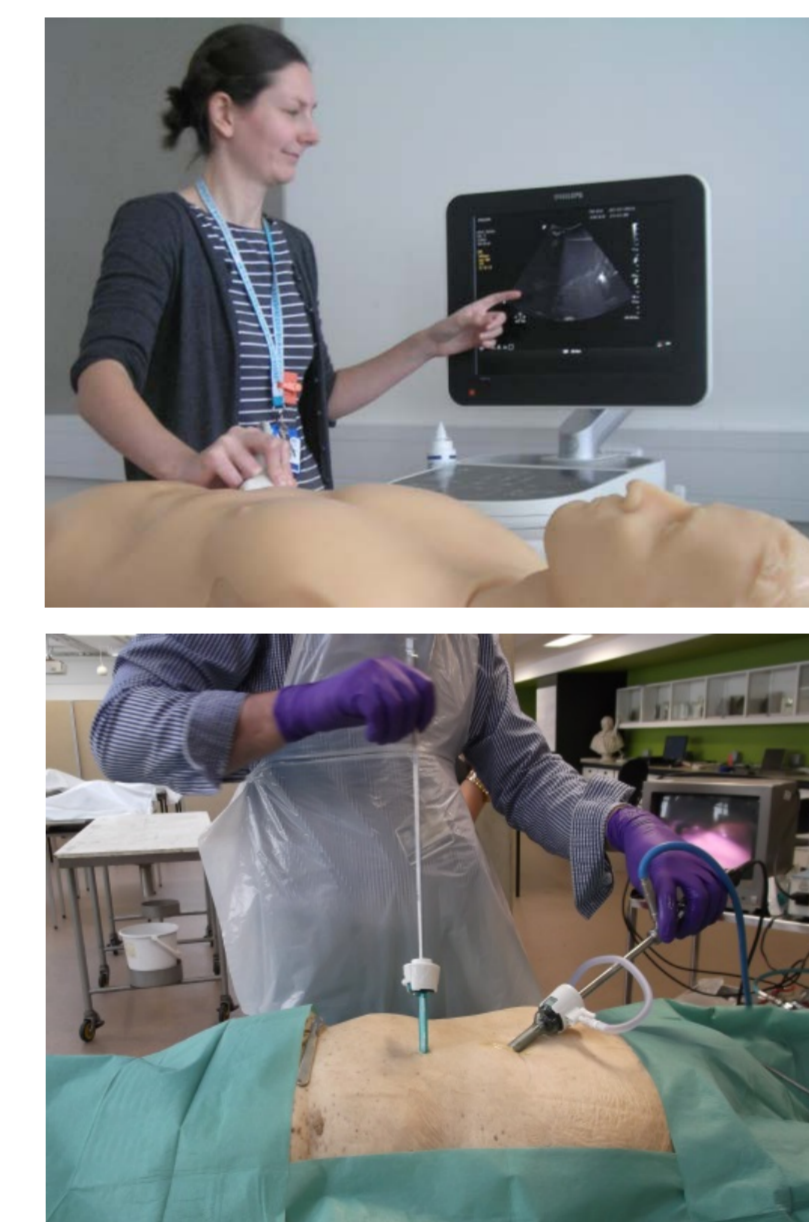
4. Spotters in class:

Strategic learning – but also promotes critical self-reflection by raising consciousness of knowledge base ⁴



5. Anatomical body painting

Active learning in group to consolidate surface anatomy⁶



6. Radiology, Ultrasound and endoscopic teaching

Promotes 3D visualisation, familiarises students with appropriate clinical investigations ⁷



7. 3D clinical cases

Team based problem solving approach consolidates clinical anatomy

Conclusion: We show that engaging students with Anatomy leads to increased enjoyment and attainment, which is maintained throughout the course and builds valuable adult learning strategies, applicable across the curriculum. Ultimately students learn to self-direct within the framework which we establish, so they can devise their own learning strategies.

References:

1. Newble, D. I., Entwistle, N. J. (1986). Learning styles and approaches: implications for medical education. *Medical Education*, 20: 162-175.
2. Sugand, K., Abrahams, P., & Khurana, A. (2010). The anatomy of anatomy: a review for its modernization. *Anatomical sciences education*, 3(2), 83-93.
3. Meyer, J., & Land, R. (2006). Overcoming barriers to student understanding: Threshold concepts and troublesome knowledge. Routledge.
4. Swanwick, T. (Ed.). (2011). *Understanding medical education: Evidence, theory and practice*. John Wiley & Sons.
5. Evans, D. J., & Cuite, T. (2009). Near-peer teaching in anatomy: An approach for deeper learning. *Anatomical sciences education*, 2(5), 227-233.
6. Finn, G. M., & McLachlan, J. C. (2010). A qualitative study of student responses to body painting. *Anatomical sciences education*, 3(1), 33-38.
7. Caswell, F. R., Venkatesh, A., & Denison, A. R. (2015). Twelve tips for enhancing anatomy teaching and learning using radiology. *Medical teacher*, 37(12), 1067-1071.