



## “Student-centered” versus “teacher-centered” teaching in human anatomy: correspondence

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Dear Editor,

We would like to offer our perspective on the publication “Practice and exploration of the “student-centered” multi-element fusion teaching mode in human anatomy” [3]. They concluded that “student-centered” learning helped students learn basic medical knowledge supported by statistically significant results for experimental tests in the experimental group when compared to the control group. We agree that “student-centered” learning has a lot to offer; however, we would like to raise a few caveats to this study.

The experiment was well-designed as it had: a good sample size, teaching delivered by the same teacher, and both subjective and objective data on teaching effectiveness were measured. The design of jigsaw teaching is excellent and crosses over well with the concept of spiral learning [4] and is overall preferred by students when compared to the control.

However, the success of multi-element fusion teaching is also dependent on the willingness of the group being taught. The qualities of extraversion and openness would be important in aiding effective role substitution teaching, and although [3] attempted to mitigate social stresses through a ‘safe classroom climate’, due to differences in personality types and learning styles, certain teaching methods which require openness and extraversion may not suit the learners learning style [1], and in fact may cause additional stress. In addition, although it is reasonable to expect Doctors to be adaptable, in the early stages of medical education, the focus should be on building a strong theoretical knowledge base before entry into clinical practice. This is supported by the study itself [3], as there was no statistical significance

in theoretical test results for the experimental and control groups, proving that lecture-based learning was just as effective for learning theory during early stages. Nevertheless, we acknowledge that other facets of student-centred teaching may develop skills (e.g. communication, teamwork, problem solving), useful for later stages of learning.

We believe that lecture-based learning still has a critical role to play in teaching and cannot be eradicated, further proven by [3], as lectures were still utilised as one of the teaching methods in the multi-element fusion teaching. It offers a remote learning resource if recorded, which is useful in the COVID-19 era and for students who were absent for in-person sessions. Moreover, lectures offer long-term revision material as students tend to make individual notes [2], which would be difficult to do in active class discussions. Tailored revisions notes are important to learners, as naturally, knowledge retention will be diminished as time progresses [5]. Conversely, lecture-based learning is only as effective as the one delivering it. Therefore, we would like to suggest that perhaps lecturers could increase interaction and engagement with the audience by utilising the methods of peer instruction and role substitution within the lecture as supported by experiment itself [3].

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### Declarations

**Conflict of interest** There were no conflicts of interest in the making of this manuscript.

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