

Improving the delivery of anatomy and physiology to students of diverse backgrounds

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We deliver anatomy and physiology to 300 allied health students studying in their first year of university in one of three professional programs: occupational therapy (OT), physiotherapy (PTY) or sport and exercise science (SES). Student entry scores range from Overall Position (OP) 1 to 22 (ATAR 99.95 to 58). Previously, the wide range of entry scores has been associated with poor outcomes and high attrition rates, particularly in those entering with higher OP (lower ATAR) scores. The student cohort has a diverse background, with one third low socio-economic background, just over half first-in-family and one third regional-based students. The diverse background is almost certainly mirrored by diversity in learning styles and abilities. Catering for this diversity is our challenge. Subject delivery was changed from traditional (3 lectures and 2 hr practical/week) to a flipped classroom (1 interactive session and 2 hr practical/workshop per week) in 2015. The physiology workshops incorporated the use of role plays, simulations and case studies, while more structured anatomy practical classes were introduced. We anticipated that active learning strategies would enhance student engagement and hence their outcomes, reducing student attrition. Students completed an anonymous questionnaire about their engagement with materials on the learning management system and materials presented to them in the practical classes. Students registered their responses to questions using a four-point Likert scale. Data from the questionnaires was analysed for differences in the frequency responses of the different cohorts. Student outcomes were compared with results from the 2014 cohort, prior to the aforementioned changes to subject delivery. Although students engaged with all of the learning materials provided, they reported that they did not feel prepared for the interactive sessions or their weekly tests. They indicated dissatisfaction with the delivery style in the open questions of the survey. Nonetheless, the results of weekly tests and written exams were improved in 2015 when compared with the 2014 results, across all groups. The practical exam results were improved in the OT and SES groups, but slightly reduced in the PTY group. There was an overall improvement in the end of year results in all three student groups, with the smallest improvement in the most academically capable students and the greatest improvement in those who have historically performed the poorest. We have highlighted the importance of changing pedagogy to suit the ever-changing student cohort.