

Prior Anatomy and Physiology – Benefits for Medical Students

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Background and Hypothesis: Recent research in anatomy education found no relationship between prior anatomy coursework and gross anatomy outcomes at the professional school level (Robertson et al., 2019). Here we investigated whether prior coursework in anatomy and/or physiology produced differences in Human Structure course outcomes, study habits, or change thereof among first year medical students.

Project Methods: A survey was administered at the beginning and end of Human Structure for the 2016-2017 and 2017-2018 classes, collecting data about planned study habits, reported study habits, course outcomes, prior coursework, and other demographic information. The survey used Likert scale and open-ended questions. The data were then analyzed using SPSS; independent samples t-tests were used to compare final Human Structure grades, specific types of study methods and changes thereof, and overall study habit change among students with and without prior anatomy and/or physiology coursework.

Results: It was found that students with prior coursework deviated less from initial study plans, employed certain methods more, and outperformed students without such coursework. Compared to their counterparts, students with prior anatomy or physiology at the college level or higher changed responses to 6.43% fewer questions regarding study habits between the start and end of Human Structure ($p=0.015$). These students with prior experience used comparatively more text-based, lab-based, and web-based resources, also showing decreased change in the aforementioned categories as well as in self-made study resources. Lastly, students who took separate anatomy and physiology classes at a college level or higher scored 3.72% higher in Human Structure at IU ($p=0.029$).

Conclusion and Potential Impact: Students without prior coursework in anatomy and physiology demonstrated relative uncertainty in their study habits during Human Structure in medical school. It may be productive to offer such students extra help in devising a study plan at the start of the course.