The impact of structured peer-facilitated learning on student performance in clinical anatomy and physiology

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Background: Teaching, Learning; Developing Recall (TL;DR) is a student group which serves as a peer-facilitated study resource for first-year medical students completing the Clinical Anatomy & Physiology course at Wake Forest University School of Medicine. TL;DR facilitators lead weekly study sessions and host mock practical sessions in preparation for in-house exams. The goal of this program is to develop competency in the anatomy curriculum, as well as in peer-directed education.

Objective: This study aims to describe the structure and functions of TL;DR as a model for potential adoption by other institutions, and to assess the impact of TL;DR participation on student performance in-house exams.

Methods: A retrospective review of 149 first-year MD students' performance on in-house Clinical Anatomy and Physiology exams at Wake Forest University School of Medicine was performed. A one-way ANOVA ($\alpha < 0.05$) with Welch correction and Games-Howell post-hoc tests were conducted to compare performance on the written portion, practical portion, and total combined score on exams amongst mock practical attendees, non-attendees, and TL;DR leadership.

Results: There was a significant difference in score between the three groups for the written portion, practical portion, and total (all $p < 0.05$). Games-Howell post-hoc tests revealed that on the written portion TL;DR leadership performed on average 10% better than mock practical non-attendees ($p < 0.001$), while mock practical attendees performed on average 7% better than non-attendees *($p = 0.002$),* but there was no difference between TL;DR leadership and mock practical attendees. For the practical portion and the total exam score, TL;DR leadership performed 11.5% and 10.5% better than non-attendees ($p < 0.001$, $p < 0.001$), Attendees performed 7.4% and 7.4% better than non-attendees ($p < 0.001$, $p < 0.001$), and TL;DR leadership performed 4.3% and 3.3% better than attendees ($p < 0.001$, $p = 0.006$).

Conclusions: The TL;DR program serves as an effective peer-facilitated study resource, significantly improving student performance in Clinical Anatomy & Physiology exams. These results suggest that similar programs could be successfully implemented at other medical institutions to enhance student learning. Future research should explore the long-term impact of peer-facilitated study groups on knowledge retention and clinical application.