

Title: Active Learning Strategy Adoption by Students in the New Trek Curriculum

Authors: Paige A. Romer, MA, Rachael Tan, PhD, Wendy Christensen, PhD, Tai Lockspeiser MD, MHPE

Purpose:

Research in adult learning theory has identified several learning strategies that are associated with greater student outcomes and others that are associated with poorer outcomes. Spaced repetition and active recall are strategies associated with better outcomes both in short-term and long-term recall. More passive learning strategies, such as rereading notes, are associated with worse recall. The new University of Colorado, School of Medicine Trek Curriculum was designed to promote active learning strategies associated with greater recall and deeper learning.

Objective:

To determine whether there are changes in study strategies in students in the first year of the Trek curriculum.

Methods:

Students in the Class of 2025 completed a pre-matriculation questionnaire about their preferred learning strategies, then completed an identical questionnaire at the end of their first year of medical school. Two specific examples of active learning strategies and two examples of passive learning strategies were chosen for analysis. Change over time was evaluated by comparing the percentage of the class that stated they “often” or “always” used each learning strategy in each questionnaire and differences were compared using a chi-squared test. Students in the Trek curriculum were given a session on learning strategies in orientation after completing the pre-matriculation questionnaire.

Results:

Compared to the pre-matriculation questionnaire, the percentage of students stating that they used spaced repetition often or always increased from 43.2% to 59.2% ($p = 0.02$). The percentage of students stating that they used active recall often or always decreased by from 70.2% to 67% ($p=0.28$). The percentage of students stating that they reread their notes often or always decreased from 62.4% to 34% ($p<0.0001$). The percentage of students stating that they watched multiple videos on the same topic often or always decreased from 58.5% to 41.3% ($p<0.0001$).

Conclusion

Students in the Colorado School of Medicine Trek Curriculum adopted more active learning strategies over the course of their first year of medical school and decreased reliance on passive learning strategies. The decrease seen in the use of active learning was not statistically significant. To further study student behavior, analysis on individual student change over time and student behaviors under the category of active recall would provide further clarification.