

## **Abstract: Conception of Learning and Teaching for Faculty that Teaches Basic Science**

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**Background:** Approaches to teaching can be placed on a continuum that ranges from teacher-centric to student-centric. The educator's conception of learning and teaching (COLT) affects the way in which faculty teach and, ultimately, how students learn. Our goal was to research the COLT for Basic Science faculty at a medical school and how it is related to time dedicated to teaching and their choice of teaching methodologies.

**METHODS:** It was a cross-sectional study using survey methodology. Quantitative data were anonymously surveyed 130 faculty members who taught Basic Sciences in the 2018 at Virginia Tech Carilion School of Medicine. We used 2 scales of the COLT survey (Jacobs et al., 2012): 1) Teacher Centeredness (TC) and 2) Appreciation of Active Learning (AL). We also collected information on teaching experience and teaching methodologies. Reliability for the survey was assessed with Cronbach's alpha test. Correlation and Chi Square were used to examine relationships between variables. Analysis of Variance was used to examine group differences.

**RESULTS:** The response rate was 38%. Overall, BS faculty scored higher on AL ( $4.06 \pm 0.41$ ) and lower in TC ( $3.12 \pm 0.6$ ) regardless of gender and degree. 17 disciplines were listed and 21 teaching modalities reported. Most faculty lecture (80%), and laboratory (20%) were used by faculty who scored high on TC ( $F = 8.69; p = .005$ ). Younger faculty (30-39 y.o.) score lower than older (50-59 y.o.) on TC ( $F = 3.29; p = .027$ ). More variety of teaching styles was reported among faculty with a lower score in TC ( $r = -.323, p = .022$ ), a higher academic rank ( $r = .401; p = 0.006$ ), and more time teaching ( $r = .483; p = 0.001$ ).

**CONCLUSION:** Faculty overall appreciated active learning to a greater extent than teacher centered but a majority faculty lecture. Diverse teaching methods are observed with faculty with a lower score on teacher centered, high rank and more time teaching. The data suggested that experienced faculty prefer active learning approaches.