

Basic Science Faculty Conception of Learning and Teaching

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Background

Some of what we teach now for medical students may be obsolete by the time they practice medicine. Instead of trying to teach everything, it is important to stimulate them to learn most effectively and efficiently and to discover new and evolving knowledge that they need now and in the future.

Approaches to teaching can be placed on a continuum that ranges from teacher-centered (focus on knowledge transmission) to student-centered (focus on conceptual change in students). The educator's conception of learning and teaching (COLT) affects teaching and, ultimately, what students learn.

This study aims to research the COLT for Basic Science faculty who teach at VTCSOM.

Research Questions

- Does faculty time dedicated to teaching correlate with their concepts of learning and teaching (COLT)?
- Do particular clusters (e.g. PhD/MD) exist among faculty that are associated with specific COLT?

Methods

REDCap survey sent to 130 VTCSOM Basic Science faculty. The COLT (Jacobs et al 2012) contain three factors measured with 5 points Likert scale:

1. Teacher centeredness - TC (how important the respondent perceives his/her role as a teacher)
2. Appreciation of active learning – AL (how the teacher values student's discussing learning material, elaborating, and interpreting information)
3. Orientation to professional practice - OP (future professional practice integrated in the teaching).

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



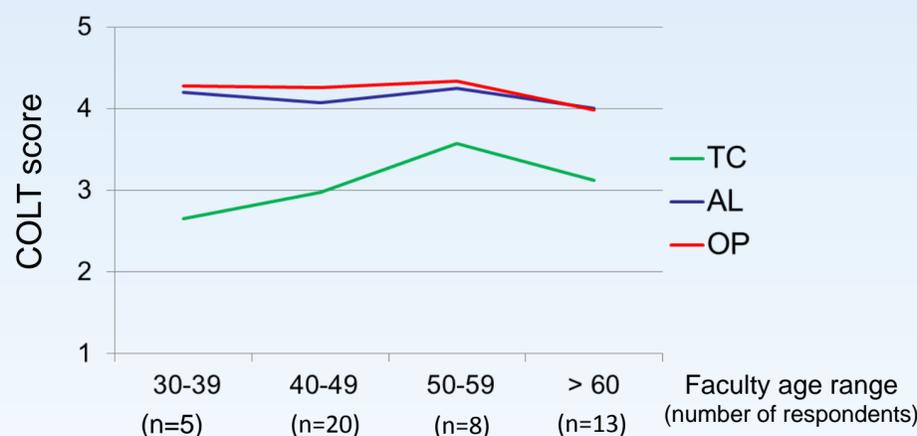
Results

Chronbach's alpha:

- Teacher centred (TC) = 0.731
- Appreciation to active learning (AL) = 0.608
- Orientation to practice (OP) = 0.730

- 40% response rate on survey (50 out 130)

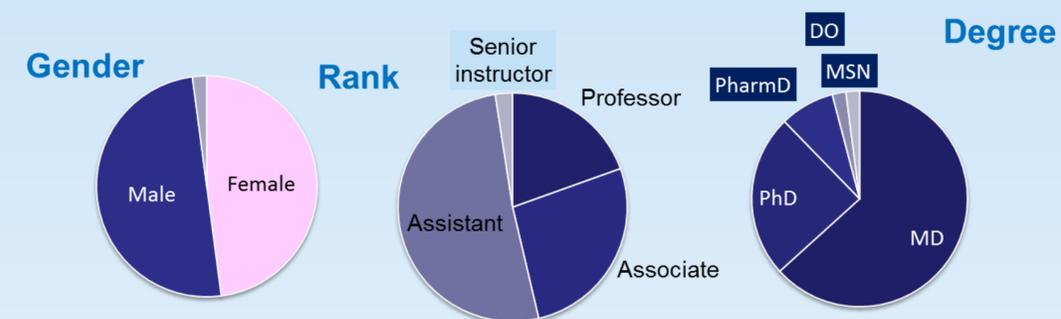
VTCSOM Basic Science Faculty Overall	Value
Teacher Centred (TC)	3.12 ± 0.6
Appreciation for Active Learning (AL)	4.06 ± 0.41
Orientation to Practice (OP)	4.2 ± 0.45



- 17 disciplines were listed and 21 teaching modalities were reported.
- Most faculty lecture (80%), and laboratory (20%) are 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 observed 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).

The COLT survey reliability

- Overall TC is negatively correlated with both AL (-0.312) & OP (-0.197)
- AL and OP is highly correlated to each other (0.602)



17 ± 3.7 hours per year teaching **Basic Science**
(confidence interval 9.5 to 24.5 hours)

Conclusions

VTCSOM Basic Science faculty members Conceptions of Learning and Teaching aligned with the school approach as faculty appreciate active learning more than teacher centred. More teaching methods is correlated with low score on teacher centred, high rank and more time teaching. This is relevant because it reaches a larger number of students as they are exposed to more diverse opportunities to learn actively. Also, as described in the literature, medical students prefer variety of teaching styles (Lujan & DiCarlo, 2006) and active learning leads to deep learning (Michael, 2006).

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