Innovations Designed to Integrate Clinical and Basic Science in the Pathology Curriculum

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GOALS AND OBJECTIVES

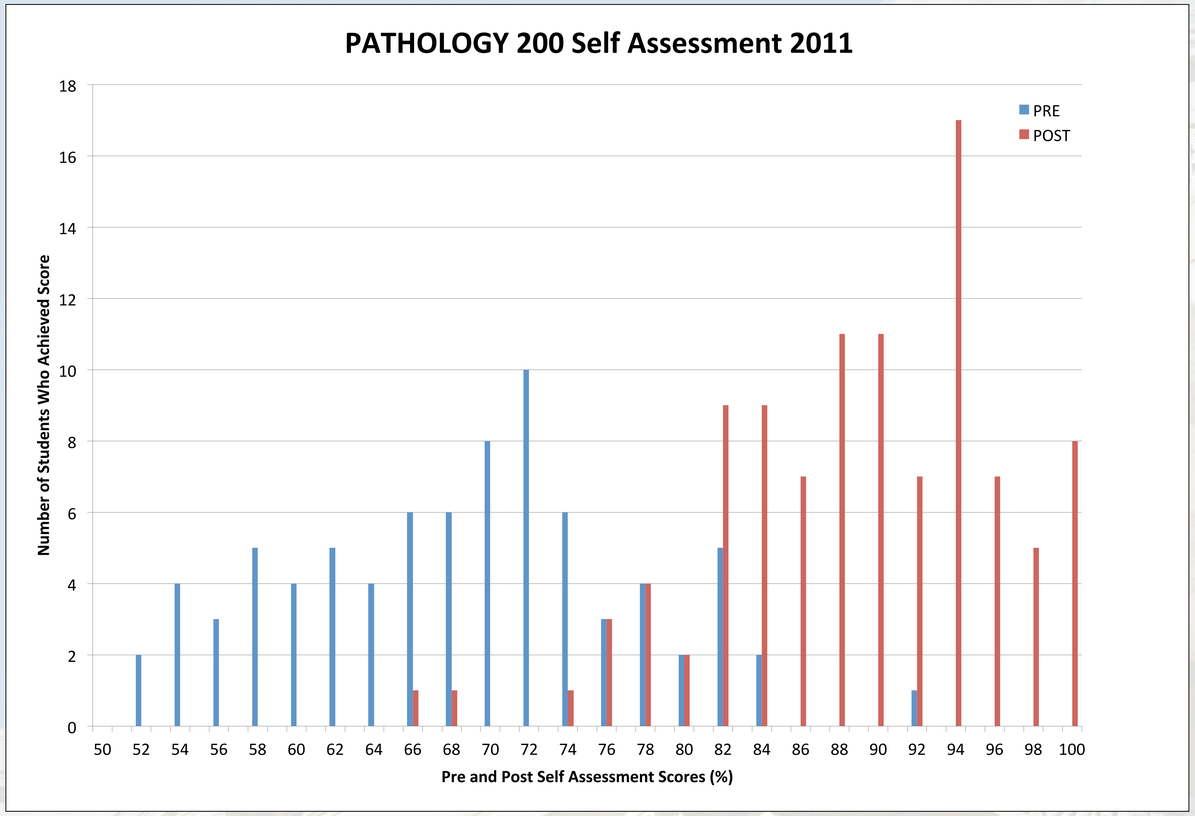
Our goal was to integrate clinical applications with basic science in the second-year medical school Pathology curriculum using interactive student centered learning strategies that included self-directed study, small group discussion and innovative self assessments.

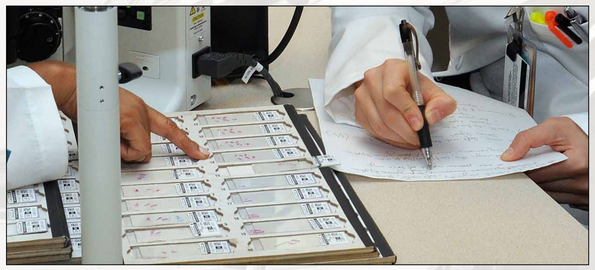
BACKGROUND / THEORETICAL FRAMEWORK / IMPORTANCE

One goal of our medical school curriculum is to integrate clinical and basic science content throughout the 4-year curriculum. Last year, we designed many innovative strategies for the second-year pathology course, which attempted to also standardize class materials and self assessments at the start and the end of the semester.

INTRUCTIONAL METHODS & MATERIALS

The curriculum was transformed into a faculty-facilitated hands-on pathology clinical experience involving a variety of interactive teaching strategies. We used gross tissues, digitized histology slides, self-study instructional PowerPoints, a department video,and small-group faculty-moderated weekly meetings, all bookended between a self-assessment at the course start and a self-assessment at the end of the course. Topics covered on the assessments included material outside the course, taught in the organ-system modules of the second-year curriculum.





REFLECTIVE CRITIQUE

The metric of the self-assessment pre course (mean score= 66) vs. the self-assessment post course (mean score= 89) indicates that the group overall gained knowledge of pathology. At Yale, student feedback occurs via online survey and face-to-face student focus teams: "advisory groups." Ours noted that the curriculum provides "resident-level," clinical interactions. The self-study materials provided a knowledge base while the assessments acted as self-correction. Incorporating participatory small group sessions demonstrates that clinical and basic science can be integrated into early exposure to pathology. Further work and research is needed to continually understand the impact of these teaching strategies and the self assessments on learning.

REFERENCES

1. Viseltear AJ. The Yale Plan of Medical Education: The Early Years. *The Yale Journal of Biology and Medicine*. 1986. 59:627-628.

2. Chene A. The Concept of Autonomy in Adult Education: A Philosophical Discussion. *Adult Education Quarterly* 1983. 34:38-47.

3. Trelstad RL, Raskova J. Teaching Pathology Without Lectures Through Computer-Based Exercises, Small-Group Discussions and Reading. *Proc Annu Symp Comput Appl Med Care*. 1992:781-2.