

# The Effect of Problem Based Learning on Exam Scores in the Third Year Ob/Gyn Clerkship

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## Background

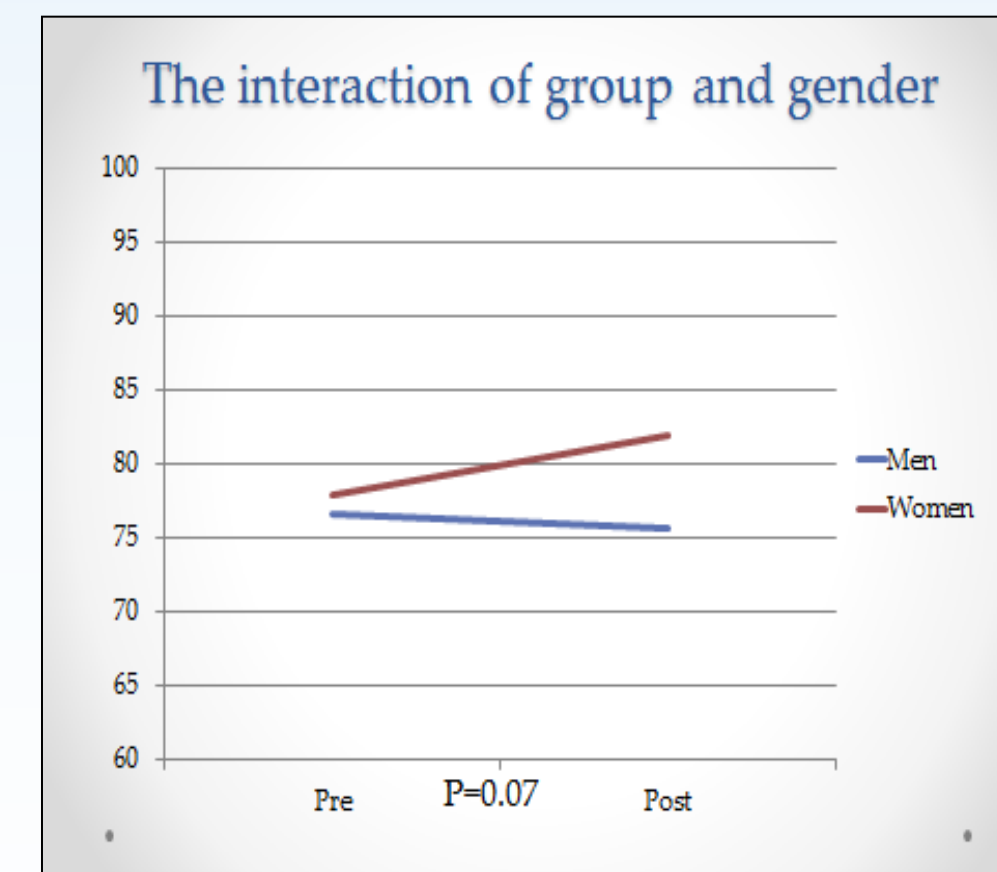
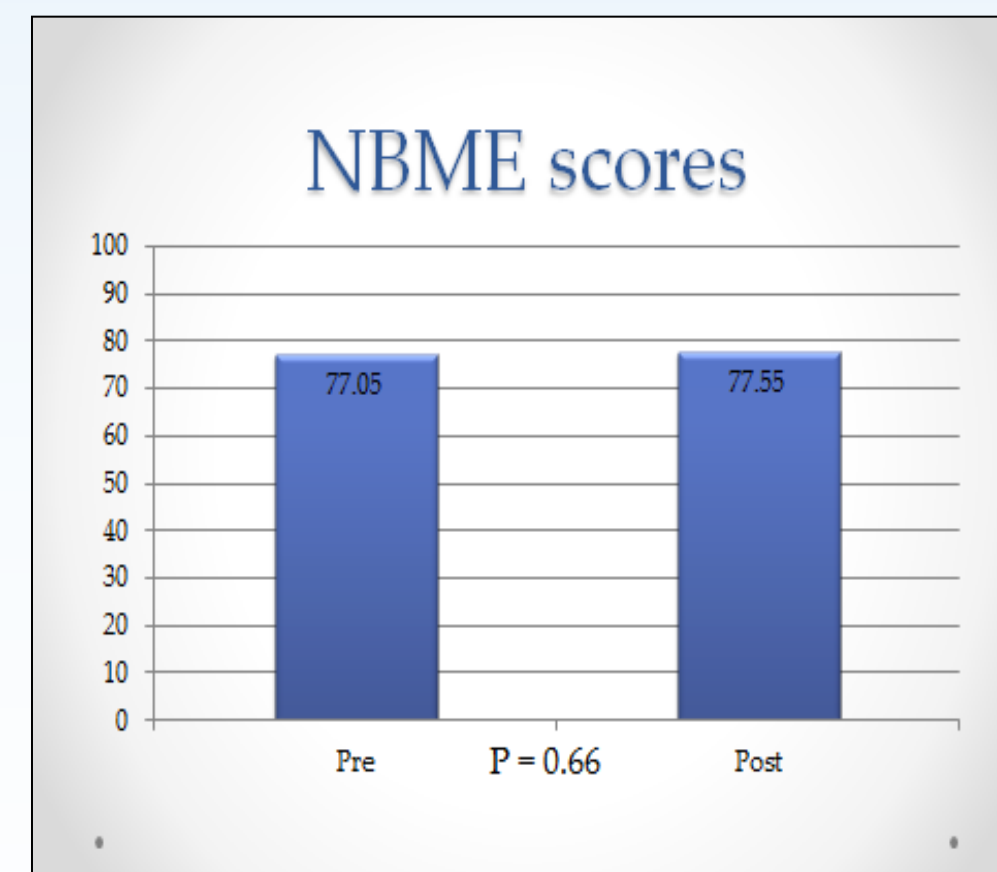
- Problem based learning (PBL) was first introduced into medical school curriculum in 1969 (Johnson & Finucane, 2000).
- The third year clerkship typically provides structured lectures.
- Contextual learning and Information Processing Theory provide an explanation on how PBL is a superior teaching method.
- Previous research has shown the PBL results in higher student satisfaction.
- However, the connection between satisfaction and scores on national exams are mixed in third year clerkships.
- NBME scores had not been evaluated in the ob/gyn clerkship after PBL implementation.
- Hypothesis: PBL in the third year Ob/Gyn clerkship improves NBME scores.

## Methods

- This is a non randomized pre post study of secondary data that evaluated test scores before and after the implementation of PBL in the third year ob/gyn clerkship.
- The scores were compared from the previous 5 academic years for students (traditional lectures) from the '17-'18 academic year when PBL was introduced.
- Changes in student lecture satisfaction were also evaluated between the pre post implementation of PBL.
- A multiple linear regression was used to evaluate the pre and post PBL test scores.
- A mixed linear regression was used to evaluate the effect of pre and post PBL on student satisfaction measures

## Results

- Implementation of PBL did not result in a significant change in test scores for the NBME in the third year ob/gyn clerkship.
- The average test scores in the Pre PBL group was 77.05 while the Post PBL group average was 77.55. Although this test average was better, it was not statistically significant (p-value 0.66).
- The student satisfaction yielded non-significant changes for all five domains (supporting materials: p-value 0.22; objectives: p-value 0.32; content: p-value 0.88; communication: p-value 0.84; professionalism: p-value 0.37).
- A secondary analysis of the interaction of the group and gender showed that women performed better on the NBME exam after PBL (p-value 0.07).



## Discussion

- There may be a "ceiling effect" that limits high performers from obtaining significant gains on the national exam.
- Limits of study include very small sample size and variety among teaching skills in our faculty.
- It can be labor intensive to switch a series of lectures from the traditional format to PBL without the benefit of higher scores or increased student satisfaction.

## Conclusion

- PBL did not result in significantly higher test scores or improved lecture evaluation for our ob/gyn third year clerkship medical students.
- A secondary analysis did not show a significant response in gender or age to PBL. However, women did show a trend towards higher scores on the NBME after PBL.
- If PBL promotes a more cooperative, collegial learning environment without sacrificing exam scores and education, then it remains a worthwhile goal.