

RATIONALE/NEED

Peer-led mock gross anatomy practical exams were started at Brody School of Medicine during the Fall 2015 semester. This was in response to an identified need of students following the first Medical Gross Anatomy & Embryology Lab Practical Exam.

The focus of the weekly mock gross anatomy practicals was to help first-year students:

- improve academic performance,
- reduce performance anxiety,
- experience lab exam conditions.

METHODS/DESCRIPTION

To provide practice with the various types of questions that appeared on the lab practical exams, the mock practicals contained 20 to 30 questions pertaining to identification/derivations, radiography, and embryology.

Since the time limit was a significant concern of some students, the time allowed at each station was only 35 seconds instead of the actual 45 seconds allotted during the exams. To develop a tolerance for the sound of the timer, the same timer was used during the mock exams as was used in the real exams.

Once the mock practical was completed, the participants formed small groups and reviewed each question. Increased knowledge came from the peer-to-peer coaching as the small groups reviewed each question. This increased knowledge is consistent with Vygotsky's (1980) "zone of proximal development", which is the difference between what a student is able to accomplish through independent effort and the level of increased potential that a student is able to demonstrate as a result of collaboration with more capable peers.

Reference:

Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes*. Harvard university press.

RESULTS

To measure the effectiveness of the peer-led mock practical exams, analysis was conducted to investigate the relationship between self-reported attendance at the mock practicals and the participants' gross anatomy exam grades, see Figures 1 and 2.

For analysis of the relationship between attendance and exam performance, the exam grade averages of student groups were calculated for the students who responded to the survey and gave permission for their grades to be included. The student groups were: did not attend the mock lab sessions (n=10); reported attendance of 1 – 3 times (n=12); 4-6 times (n=9); attended all sessions (n=7) and the class average (n=75).

The relationship of attendance and exam grades was conducted on the practical lab exam grade averages and the written exams grade averages. The student group reporting "attended all sessions" consistently had higher averages on both exams than the class as a whole and the groups that attended fewer mock labs.

Post-event questionnaires were administered to the students using Google Forms. Questions included self-reported attendance, why they attended the mock practical exams, the perceived benefits of attendance, and what they gained from participating. Respondents were asked to select all that apply from the provided answer choices on some questions. The response rate on the survey was 60% (45 of the 75 class members). The most common selected response for why they attended was "a deficit in being able to identify tagged specimens" (40%). When asked to select all that apply for what was most helpful from participating in the mock practicals, 66% of the responding participants selected "peer-to-peer discussion after the mock lab"; and 51% selected "seeing different presentations of the various specimens." When asked to select one response on what was gained the most from participation, 43% responded "increased confidence when taking the exam" and 40% responded "increased knowledge of the structures." The analysis of the relationship between attendance and exam grades and the participants survey results indicate that the goals were met by the peer-led program.

Figure 1

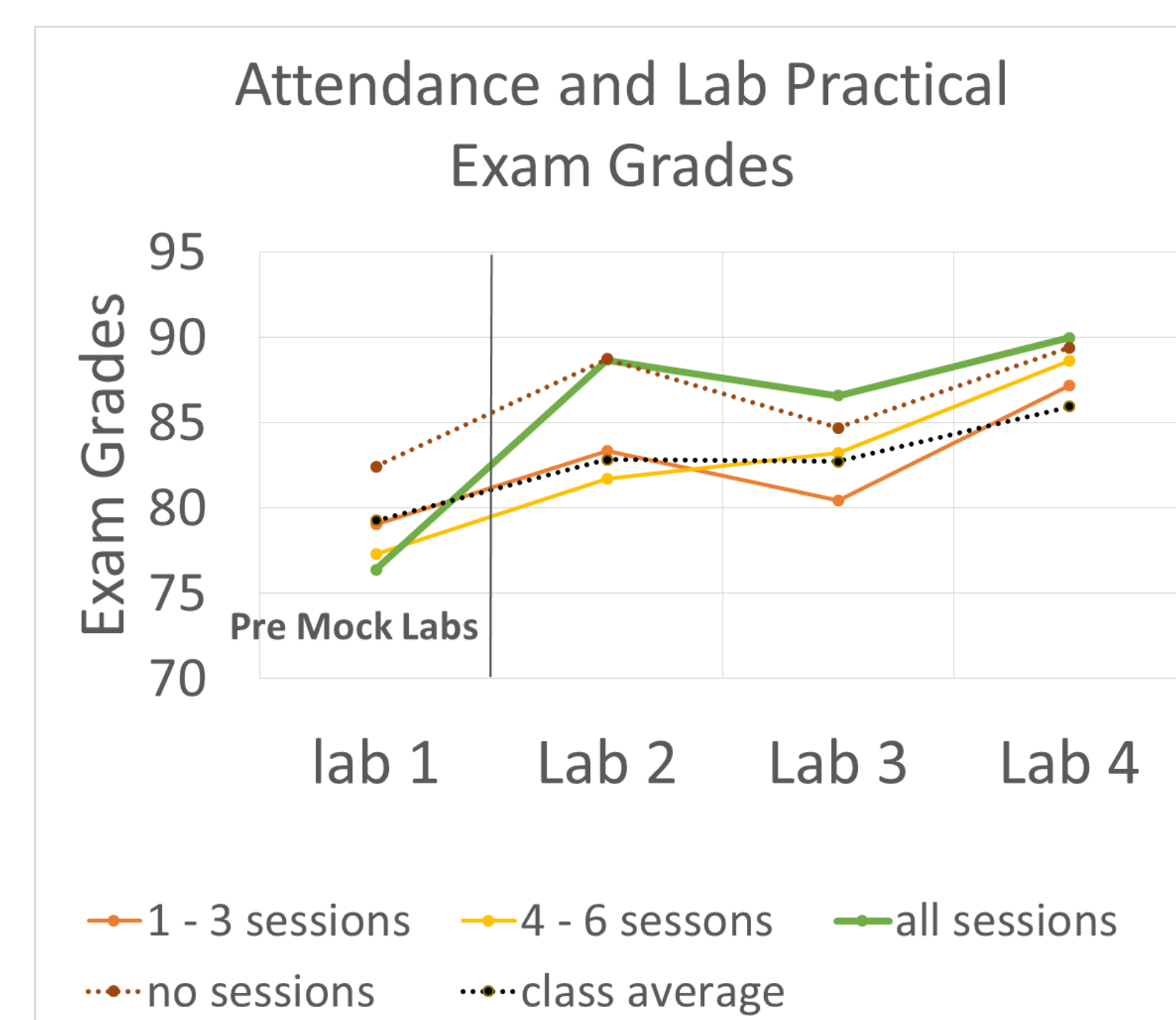
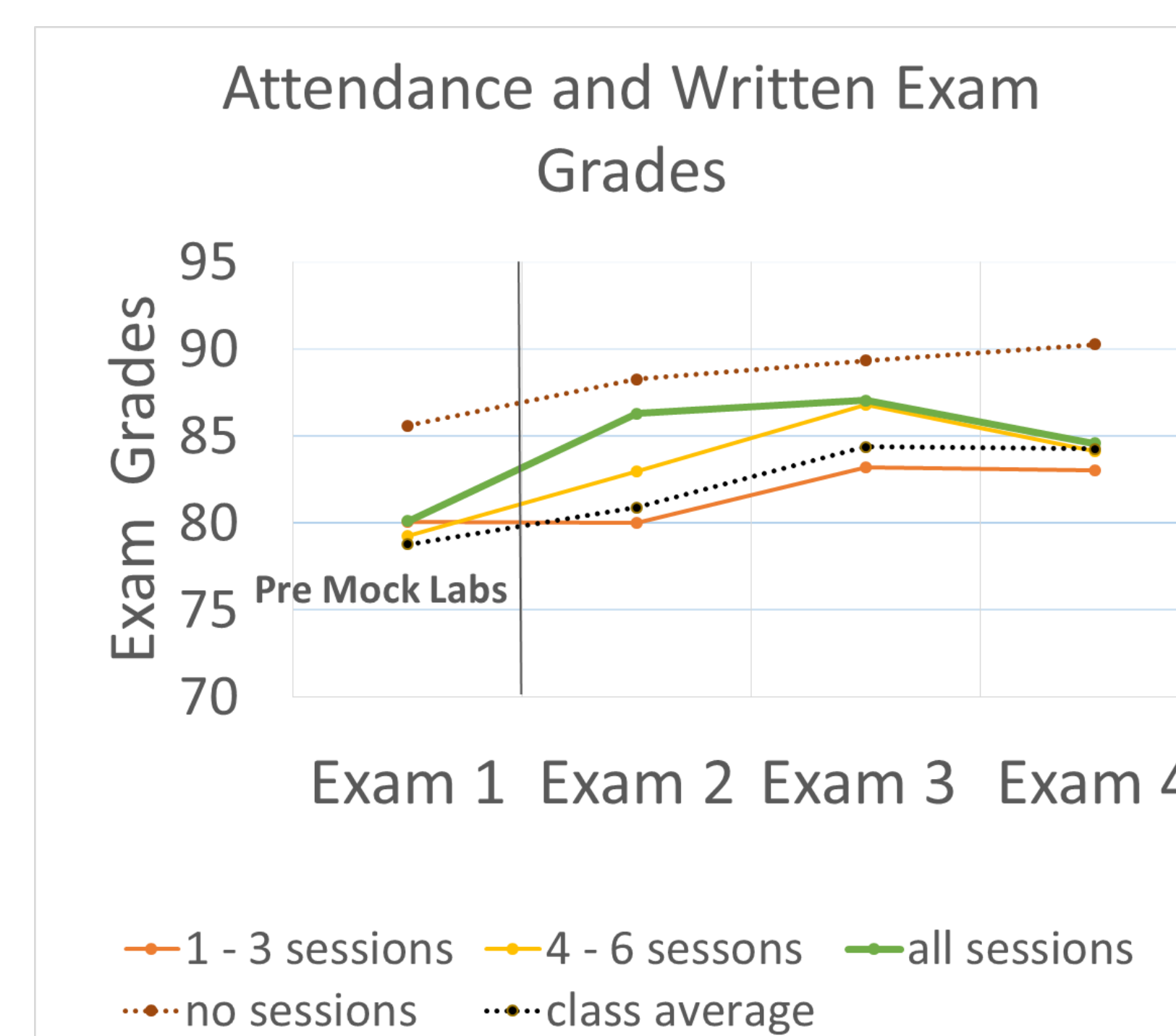


Figure 2



GROSS ANATOMY LAB



IMPACT/LESSONS LEARNED

This pilot program highlights the effectiveness of stress inoculation and peer-assisted learning groups for increased academic performance and reduced performance anxiety.

Mock practical exams engage higher education leadership that supports student/faculty collaboration and promotes peer-to-peer connections to increase students' academic success. It also emphasizes an approach to student learning that can be coupled with the already-proven Brody P.A.S.S. program.

It appears that a subsection of students are very interested in peer-assisted learning. Of the group that reported attending all mock labs, 71% also participated in Brody P.A.S.S. (**Peer Assisted Study Sessions**).

In the future, a formal study can be conducted to document the effectiveness of peer-led mock practicals in the gross anatomy laboratory.

ACKNOWLEDGEMENTS

We would like to acknowledge the donors and donors' families who bequeathed their own bodies or the bodies of their loved ones to medical education and research through the Anatomical Gift Program at The Brody School of Medicine at East Carolina University.